

# материал и компонент для электроники

## Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231  
Ангарск (3955)60-70-56  
Архангельск (8182)63-90-72  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
Белгород (4722)40-23-64  
Благовещенск (4162)22-76-07  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Владикавказ (8672)28-90-48  
Владимир (4922)49-43-18  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06  
Ижевск (3412)26-03-58  
Иркутск (395)279-98-46  
Казань (843)206-01-48  
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Коломна (4966)23-41-49  
Кострома (4942)77-07-48  
Краснодар (861)203-40-90  
Красноярск (391)204-63-61  
Курск (4712)77-13-04  
Курган (3522)50-90-47  
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41  
Нижегород (831)429-08-12  
Новокузнецк (3843)20-46-81  
Ноябрьск (3496)41-32-12  
Новосибирск (383)227-86-73  
Омск (3812)21-46-40  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Петрозаводск (8142)55-98-37  
Псков (8112)59-10-37  
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78  
Севастополь (8692)22-31-93  
Саранск (8342)22-96-24  
Симферополь (3652)67-13-56  
Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Сургут (3462)77-98-35  
Сыктывкар (8212)25-95-17  
Тамбов (4752)50-40-97  
Тверь (4822)63-31-35

Тольятти (8482)63-91-07  
Томск (3822)98-41-53  
Тула (4872)33-79-87  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Улан-Удэ (3012)59-97-51  
Уфа (347)229-48-12  
Хабаровск (4212)92-98-04  
Чебоксары (8352)28-53-07  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Чита (3022)38-34-83  
Якутск (4112)23-90-97  
Ярославль (4852)69-52-93

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3M™ Novec™ 1710 Electronic Grade Coating, 5.4 kg (12 lb), 1 Bottle/Case



3M™ Bumpon™ Resilient Rollstock SJ6212 Black R25FL, 4.5 in x 36 yds



3M™ Bumpon™ Protective Products SJ6112



3M™ Bumpon™ Protective Products SJ5402



3M™ Bumpon™ Resilient Rollstock SJ6032



3M™ Bumpon™ Protective Products SJ5705SBCC, Black, 1000/Case



3M™ Bumpon™ Protective Products SJ5317 Clear, 1000/Case



3M™ Bumpon™ Protective Products SJ5017



3M™ Lapping Film Sheet 461X



3M™ Textool™ Open-Top  
Sockets for QFN Applications,  
288-4205-01



3M™ Textool™ Open-Top  
Sockets for QFN Applications,  
216-5205-01



3M™ Pull Tab, 891 Series



3M™ Pak 50 Boardmount Plug,  
P50 Series



3M™ Industrial M12 Wiremount  
Connector 3N304-D000-S08 BF,  
Silver, 50 ea/Case



3M™ Shielded/Jacketed, Flat  
Cable, 3517 Series



3M™ Color Coded Flat Cable,  
3811 Series



3M™ Round Conductor Flat  
Cable, 8125 Series



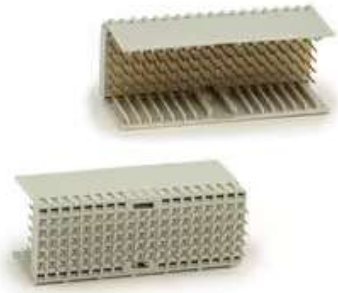
3M™ Round Shielded/Jacketed  
Discrete Wire Cable 3644X  
Series



3M™ Mini Delta Ribbon (MDR)  
Junction Shell 103XX-52F0-008



3M™ Mini-Clamp Socket 373  
Series



3M™ CP2 Press-Fit Header,  
CP2 Series



3M™ Mini Delta Ribbon (MDR)  
Cable Assembly, 14520-EZAB-  
XXX-0EC



3M™ Textool™ ZIP DIP Sockets



3M™ Bumpon™ Protective  
Products SJ5344 Clear,  
2600/Case



3M™ Bumpon™ Protective  
Products SJ5003



3M™ Novec™ 71DE  
Engineered Fluid



3M™ Four-Wall Header 2500  
Series



3M™ Chip Carrier Sockets,  
8400 Series



3M™ Round, Jacketed, Flat  
Cable, 3759 Series



3M™ IDC Ribbon Cable Socket,  
891 Series



3M™ Wiremount Socket, w/  
Optional Plastic or Metal Strain  
Relief, 3000 Series



3M™ Clear Polycarbonate  
Carrier 2703



3M™ Fluorinert™ Electronic  
Liquid FC-40



3M™ Round, Shielded/Jacketed,  
Flat Cable, HF659 Series



3M™ Molded Assembly 1M  
Series



3M™ Bumpon™ Protective  
Products SJ5076, Black,  
3000/Case



3M™ High Shear Pressure Sensitive Cover Tape 2668



3M™ Novec™ 1700 Electronic Grade Coating



3M™ Novec™ Contact Cleaner, 312 g (11 oz), 6 Canisters/Case



3M™ Novec™ 72DE Engineered Fluid



3M™ Fluorinert™ Electronic Liquid FC-770



3M™ Greenback Printed Circuit Board Tape 851



3M™ Diamond Lapping Film Roll 661X



3M™ Bumpon™ Protective Products SJ5312



3M™ Static Dissipative Heat Activated Cover Tape 2675



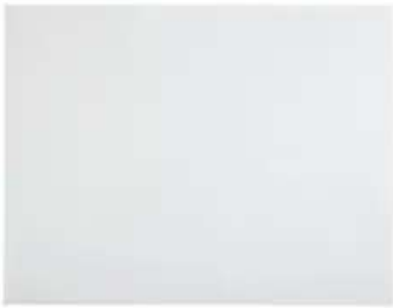
3M™ Fluorinert™ Electronic Liquid FC-43



3M™ Four-Wall Header Straight and Right Angle 3000 Series



3M™ 4-Wall Tripolarized Header 810 Series



3M™ Lapping Film Sheet 261X



3M™ Bumpon™ Protective Products SJ5306



2688A UCT 5.4MMx300M 2D PACK ASE NB



3M™ Boardmount D-Sub Straight Socket Connector 885 Series



3M™ Thermally Conductive Silicone Interface Pad 5595S



3M™ 400G QSFP-DD Direct Attach Copper Cable Assemblies 9V Series





3M™ Mini Stack Connector  
Hand Tool 3S900-1X



3M™ Mini Delta Ribbon (MDR)  
Junction Shell 10326-52A0-008,  
Black, 100 Ea/Case



3M™ MetPak™ HM Header, HM  
Series



3M™ High-Routability Internal  
miniSAS Cable Assembly, 8F68  
Series



3M™ Transparent Conductor  
Film 3M23-MS, 450 mm x 450  
mm, 5 Ea/Case



3M™ Pin Strip Header, 961  
Series



3M™ Pak 50 I/O Plug, P50-  
XXX-DDP-XXX-EA, P50 Series



3M™ Shielded Compact Ribbon  
Connectors 36110-1110 PL,  
Silver, 100 ea/Case



3M™ Boardmount D-Sub Right  
Angle Socket Connector 887  
Series





3M™ Lapping Film 863XW, 0.02 Micron Sheet, 6 in x 6 in, 50/Inner, 500/Case



3M™ Mini Stack Connector Junction Header 3S8 Series



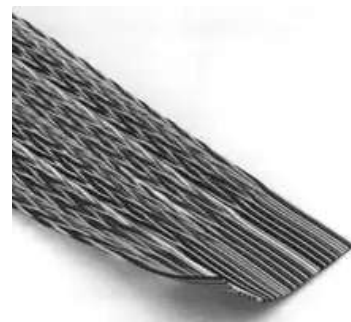
3M™ Polycarbonate Carrier Tape 3002R 2D Barcode Series



3M™ Round Conductor Flat Cable, 3447 Series



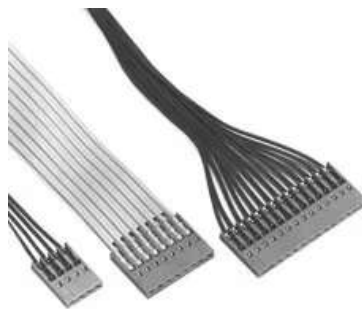
3M™ Pleated Foil Shielded Cable, 90211 Series



3M™ Twisted Pair Flat Cable, 1700 Series



3M™ Pak 50 Wiremount Socket, P25E Series



3M™ Wiremount Socket, CHG Series, CHG-1002-001010-KCP



3M™ USB3 Vision Industrial Camera Cable Assembly 1U30A Series



3M™ Mini Delta Ribbon (MDR) Junction Shell 103XX-3210-00X



3M™ Mini Delta Ribbon (MDR), X102XX-55X3XX, 102 Series



3M™ Solder Cup D Sub Socket, 8000 Series, 8R09-N001



3M™ Mini Delta Ribbon (MDR) Junction Shell 103XX-1230-00



3M™ Power Clamp Wiremount Plug, 358 Series



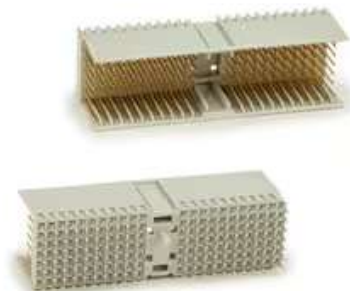
3M™ HDC Header, HDC Series



3M™ HM Press-Fit Socket, 8 Rows, HM Series



3M™ HSHM Guide Pin and Guide Socket, HSHM Series



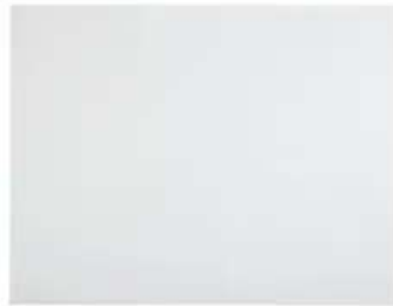
3M™ CP2 Press-Fit Header, CP2 Series



3M™ MetPak™ 2-FB Socket, MP2 Series

3M™ Card-Edge, XXXX-0002, 3000 Series

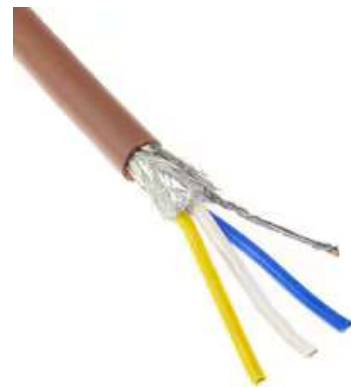
3M™ Mini Serial Attached SCSI (miniSAS) Connector, RA Surface Mount, 8A26/8C26... Series



3M™ Locator Plates for 3M™ Connectors

3M™ Lapping Film Sheet 261X

252-4204-00=QFN.4MM/52POS/W/OTPODDROW



3M™ MetPak™ Lower Shield, CP2 Series

3M™ Mini Delta Ribbon (MDR), 10268-5JBEPC, 102 Series

3M™ Round Conductor Round Cable for CC-Link, 79100 Series



3M™ Lapping Film Disc 268X



3M™ Lapping Film 466X, Discs



3M™ Polycarbonate Carrier Tape 3000R Series



3M™ Cable Accessory, DS/FS Series



3M™ Flux Field Directional Material EM25TP



3M™ Lapping Film Disc 261X



3M™ Industrial M12 Wiremount Connector A-code 3N304 Series



3M™ Bumpon™ Protective Products SJ6122 Black, 3000/Case



3M™ Bumpon™ Protective Products SJ5518



3M™ Bumpon™ Resilient Rollstock SJ6232



3M™ Bumpon™ Resilient Rollstock SJ5908



3M™ Bumpon™ Protective Products SJ5510



3M™ Non-Conductive Heat Activated Cover Tape 2672, 9.5 mm x 480 m



3M™ Lapping Film 265X, 1.0 Micron PSA Sheet, 8.50 in x 11 in, 50/Inner, 200/Case



3M™ Wafer De-Taping Tape 879



3M™ Scotch™ Surface Protective Tape 331T



3M™ Twin Axial Cable, SL8801/12 Series, 4 Pair, 4 Sidebands in Center



3M™ Textool™ Open-Top Sockets for QFN Applications, 228-5204-01



3M™ Connector for PC104 Embedded Systems Applications, Bus Compatibl... 4P01/4P02 Series



3M™ Textool™ Open-Top Sockets for QFN Applications, 240-5205-01



3M™ Novec™ 2704 Electronic Grade Coating



3M™ Lapping Film 468X, 15.0 Micron PSA Disc, 10 in x NH, 50/Inner, 200/Case



3M™ CoaXPress Cable Assembly 1CXx-xx-0S Series



3M™ Lapping Film 262X, Discs



3M™ Standard Socket / Header mil Compliant Wiremount Click Plug, 4200 Series, 4210-000... SCMD, Gray, 100 Ea/Case

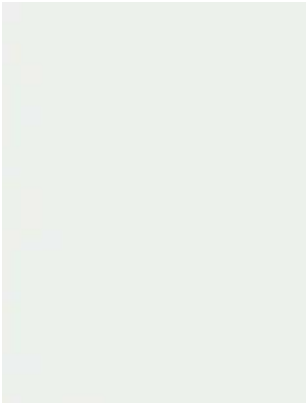


3M™ Diamond Lapping Film Disc 668X



3M™ Novec™ 71DE Engineered Fluid





3M™ Lapping Film 863XW, Sheets and Rolls



3M™ Three-Wall Header 3000 Series



3M™ Pak 8 Plug Connector, P08 Series



3M™ Pak 10 Plug, PK10 Series



3M™ MetPak™ HM Header, HM Series



3M™ Textool™ Shrink DIP Sockets



3M™ Pin Strip Header, 961 Series



3M™ Pin Strip Header, 929 Series



3M™ Pak 50 Low Profile Plug, P50L Series



3M™ Chip Carrier Sockets,  
8400 Series



3M™ Mini Delta Ribbon (MDR)  
Connectors, 102 Series



3M™ Water Contact Indicator  
Tape 5557NA



3M™ Link Connector, 382  
Series



3M™ Light-To-Heat-Conversion  
Release Coating



3M™ Bumpon™ Protective  
Products SJ6144 Black,  
2600/Case



3M™ Bumpon™ Protective  
Products SJ5745 Black,  
3000/Case



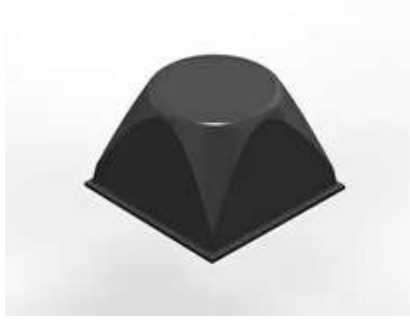
3M™ Bumpon™ Protective  
Products SJ5523



3M™ Bumpon™ Protective  
Products SJ6344 Black,  
2600 per case



3M™ Bumpon™ Resilient Rollstock SJ5916



3M™ Bumpon™ Protective Products SJ5514



3M™ Bumpon™ Protective Products SJ5309 Clear, 1000/Case



3M™ Water-Soluble Wave Solder Tape 5414



2688A UCT 5.4MMx300M 2D PACK ASE NB



3M™ Diamond Pad Conditioner Bar



3M™ Lapping Film 266X, Sheets and Rolls



3M™ Diamond Lapping Film 664X, Sheets and Rolls



3M™ Electrically Conductive Double-Sided Tape 9711S



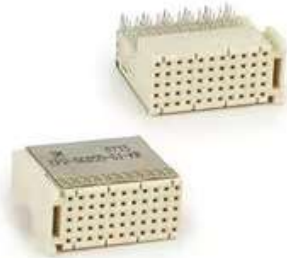
3M™ Textool™ Open-Top  
Sockets for QFN Applications,  
232-5205-01



3M™ Connector for PC104  
Embedded Systems  
Applications, Bus Compatibl...  
4P01/4P02 Series



3M™ Textool™ Open-Top  
Sockets for QFN Applications,  
248-5205-00



3M™ CP2 Press-Fit Socket,  
CP2 Series, CP2-SC055-G1-FJ



3M™ Novec™ 2708 Electronic  
Grade Coating



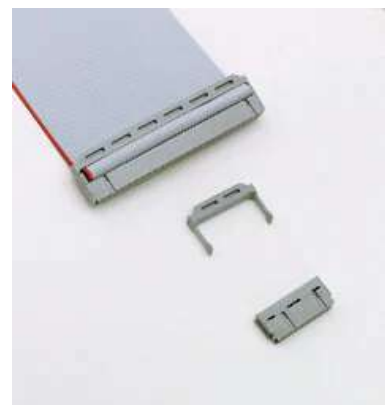
3M™ Pleated Foil Shielded  
Cable, 90104 Series



3M™ Color Coded Flat Cable,  
3811 Series



3M™ Round Conductor Flat  
Cable HF365 Series



3M™ Wiremount Socket  
Preassembled 3000 Series



3M™ IDC Ribbon Cable Socket, D89 Series



3M™ Ribbon Cable Wiremount Socket 1.27 mm (0.050 in) Pitch 451 Series



3M™ Thermally Conductive Tape 9882, 1 in x 36 yds x 2.0 mil, 9/Case, Bulk



3M™ Mini Stack Connector Wiremount Socket 3S5 Series



3M™ Mini Delta Ribbon (MDR), N102XX-52XXXC, 102 Series



3M™ Trizact™ Composite Slurry DE-100



3M™ DIN C-Form Socket, DIN 41612 Series



3M™ Shielded/Jacketed, Flat Cable, HF017 Series, HF017/25



3M™ Mini Delta Ribbon (MDR), 103XX-C500-00, 103 Series



3M™ Mini Delta Ribbon (MDR)  
Junction Shell 103XX-52F0-008



3M™ Mini Delta Ribbon (MDR),  
101XX-8X00EE, 101 Series



3M™ D Sub Socket 8350 Series



3M™ Mini Delta Ribbon  
(MDR), 101XX-60XOEC, 101  
Series



3M™ Mini-Clamp II Plug, 371  
Series



3M™ Pak 50 Stacking  
Compression Connector, 389  
Series



3M™ HSHM Press-Fit Header,  
8-Row, HSHM Series



3M™ CP2 Press-Fit Socket CP2  
Series



3M™ Signal Connectors for  
MicroTCA™ Applications,  
Backplane





3M™ Card-Edge, XXXX-0041,  
3000 Series

3M™ Textool™ OEM LCC  
Sockets

3M™ Cable Accessory, 3504  
Series



3M™ Assembly Platen, 3442-9

3M™ Three-Wall Condo Header,  
3000 Series

3M™ Pak 8 Socket Connector,  
P08 Series, P08-100SLTC-B-G



3M™ Greenback Printed Circuit  
Board Tape 851

3M™ Mini Delta Ribbon (MDR)  
Cable Assembly, 1W226-TZLB-  
XXX-0LC

3M™ Mini Delta Ribbon (MDR)  
Cable Assembly, 14526-EZ5B-  
XXX-02C Series



3M™ Thermally Conductive Adhesive Transfer Tape 9885



3M™ Mini Serial Attached SCSI (miniSAS) Connector Assembly, 8AB36 Series, 8AB36-2XXX... Sample



3M™ Twin Axial Cable Assembly for PCI Express x4 Jumper Applications,... 8KJ2-0743-0250



3M™ Shielded Controlled Impedance (SCI) Assembly Hardware



3M™ Textool™ Receptacles for DIP Sockets



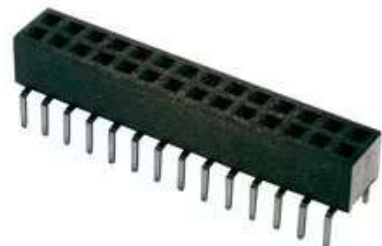
3M™ MetPak™ 2-FB Socket, MP2 Series



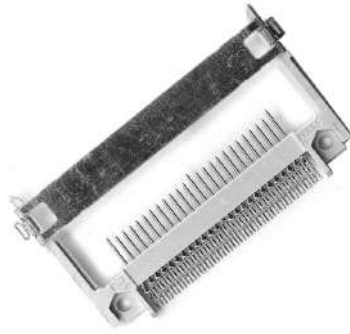
3M™ Power Right Angle Header Module for Hard Metric (HM) Applications, Hm-Pwr-Hdr... Series, HM-PWR-HDR-02-LR



3M™ Round Conductor Round Cable for CC-Link/LT 79100 Series 79100-075-4ZLT, 200 ... Black, 1 ea/Case



3M™ Through-Board Socket, 953 Series



3M™ Pak 50 Low Profile Plug, P50L Series

3M™ CF Card Headers N7E50-F516 PK-30, Beige, 100 ea/Case

3M™ Ultra Hard Metric (UHM) Press-Fit Socket, UHM Series



3M™ Shielded Compact Ribbon Connectors 36110-3000 FD, Silver, 100 ea/Case

3M™ Board Stacking Connector System, P05N-XXXST-A-G Series

3M™ Pak 50 Socket, P50L Series



3M™ Fluorinert™ Electronic Liquid FC-3283

3M™ Pleated Foil Shielded Cable, 90101 Series

3M™ Pleated Foil Shielded Cable, 90201 Series



3M™ High Flex Life Cable,  
HF319 Series



3M™ Flux Field Directional  
Materials EM80KM



3M™ I/O Interconnect System  
2.0 mm for IEEE 1394 3E306  
Series



3M™ Round Shielded/Jacketed  
Discrete Wire Cable 3750 Series



3M™ Link Connector, 381  
Series



3M™ Wiremount Socket, 1522  
Series, 152244-0100GG



3M™ Industrial M12 Wiremount  
Connector A-code 3N104 Series



3M™ Lapping Film 863X, Discs



3M™ D Sub EMI Junction Shell,  
Shielded Flat Cable



3M™ Mini Delta Ribbon (MDR)  
Junction Shell 103XX-12R1-00



3M™ D Sub Plug, 8200 Series



3M™ Mini Delta Ribbon (MDR),  
101XX-X2X2XC, 101 Series



3M™ Mini Delta Ribbon (MDR),  
101XX-3000PX, 101 Series



3M™ Mini-Clamp Plug, 371  
Series



3M™ Power Right Angle Male  
Connector for ATCA™  
Applications, 2P01-0200-ES



3M™ Serial Attached SCSI  
(SAS) Connector, SBR-ST-22-  
M-XX, SBR Series



3M™ Specialty DIP, 3498  
Series, 3498-0000



3M™ Strain Relief for IDC  
Ribbon Cable Socket, D89  
Series, D3448-89124, 500/case



3M™ Mini Delta Ribbon (MDR) Cable Assembly, 4926-01XX

3M™ Mini Serial Attached SCSI (miniSAS) Cable Assembly, 8M26 Series



3M™ Power Connectors for CompactPCI™ Applications, Male



3M™ MetPak™ 2-FB Shroud, MP2 Series

3M™ Bumpon™ Protective Products SJ6146 Black, 1000/Case



3M™ Bumpon™ Protective Products SJ5782 Black, 3000/Case



3M™ Bumpon™ Protective Products MB1202-132 Clear, 2000/Case



3M™ Bumpon™ Quiet Clear Protective Products SJ6561



3M™ Bumpon™ Quiet Clear Protective Products SJ6506, 5000/Case





3M™ Bumpon™ Resilient Rollstock SJ6005 Black A20FL, 4.5 in x 24 yds x 5 mm, 1/Case



3M™ Bumpon™ Protective Products SJ5532



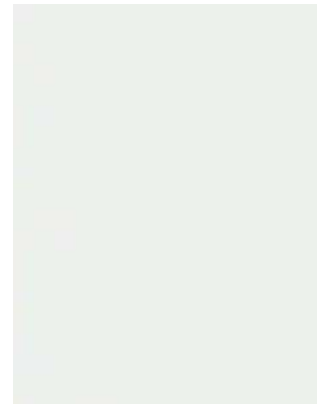
3M™ Bumpon™ Protective Products SJ5017



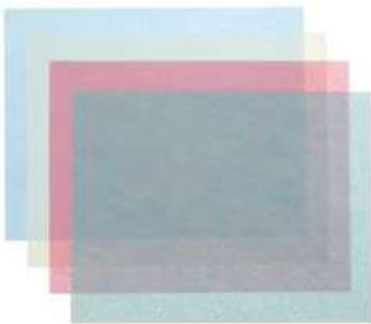
3M™ Static Dissipative Heat Activated Cover Tape 2675



3M™ Diamond Pad Conditioner



3M™ Lapping Film 863X, 0.02 Micron Sheet, 6 in x 6 in, 50/Inner, 500/Case



3M™ Wetordry™ Polishing Paper Sheet 281Q



3M™ Diamond Lapping Film 668X - Custom Sizes



3M™ Twin Axial Cable, SL8802/04 Series, 2 Pair, 2 Drains



3M™ Textool™ Open-Top Sockets for QFN Applications, 248-5205-01



3M™ Round Conductor Flat, LSHF Cable, HF447 Series



3M™ Novec™ 7000 Engineered Fluid



3M™ Novec™ 1702 Electronic Grade Coating



3M™ Novec™ 5110 Insulating Gas, 11.3 kg (25 lb), 1 Cylinder



3M™ Novec™ 7500 Engineered Fluid



3M™ Novec™ 7200 Engineered Fluid



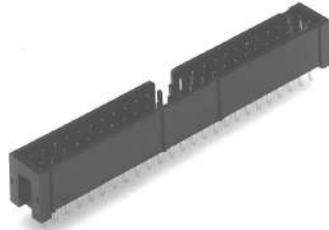
3M™ Thermally Conductive Interface Tape 8926 Series



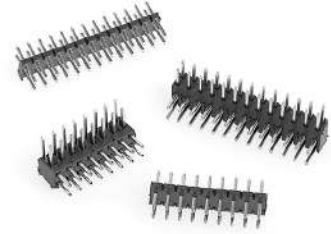
3M™ Four-Wall Header 2500 Series



3M™ Polyethylene Tape 3K87



3M™ Shrouded Header, 929 Series



3M™ Pin Strip Header, 1512 Series



3M™ Latch/Eject Header, 1552 Series



3M™ Ultra-Thin Water Contact Indicator Tape 5558



3M™ Normal DIN 41612 Header, 7064 Series



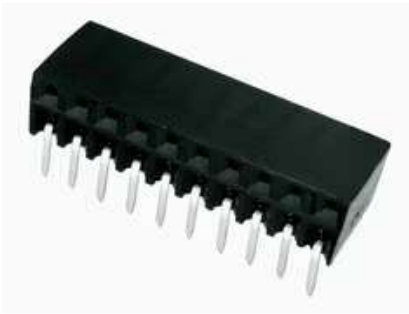
3M™ Twin Axial Cable, Jacketed, SL9000 Series, 4 Pair for MiniSAS or QSFP+



3M™ Through-Board Socket, 953 Series



3M™ Pin Strip Header, 929 Series



3M™ Boardmount Socket, 960 Series



3M™ D Ribbon Wiremount Socket, w/ Attached Bail, 3000 Series



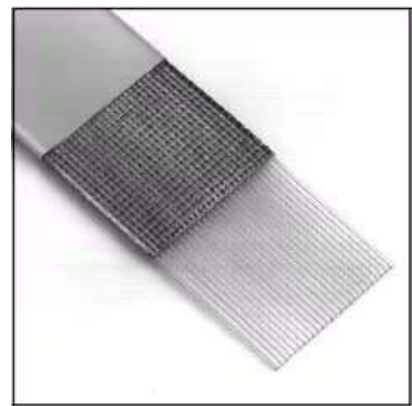
3M™ High-Routability Internal HD MiniSAS Cable Assemblies, 8U Series



3M™ Thermally Conductive Tape 9890, 1 in x 36 yds, 10.0 mil, 9/Case, Bulk



3M™ Shielded/Jacketed, Flat Cable 1785 Series



3M™ Pleated Foil Shielded Cable, 90204 Series



3M™ Jacketed, Flat Cable, .050", 3603 Series



3M™ Color Coded Flat Cable, 3302 Series



3M™ Round Shielded/Jacketed Flat Cable, 3896 Series



3M™ Tripolarized Wiremount  
Socket 820 Series



3M™ D Sub EMI Junction Shell,  
3357-62XX-1C



3M™ Shielded Compact Ribbon  
(SCR) Connectors Shell Kit  
36310-F200-008



3M™ Shielded Compact Ribbon  
(SCR) Connectors  
36110-2220XX



3M™ Mini Delta Ribbon (MDR)  
102XX-0210EC 102 Series



3M™ Mini-Clamp Socket Right  
Angle 372 Series



3M™ Normal DIN 41612  
Boardmount Socket, 7164  
Series



3M™ CF Card Header, 7E50  
Series



3M™ Serial Attached SCSI  
(SAS) Connector, SBH Series,  
SBH-ST-29-SM-ML



3M™ I/O Connector Mounting Options and Hardware

3M™ Mini Delta Ribbon (MDR) Cable Assembly, 141A0-SZ5B-XXX-0DC Series, 141A0-...SZ5B-300-0DC

3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14520-EZAB-XXX-0EC



3M™ Twin Axial Cable Assemblies for Internal HD MiniSAS to Internal miniSAS 36P Applications, 8UH4-BA113-00-1.00

3M™ Cable Assemblies for SFP+ Applications, 1410 Series

3M™ Textool™ Staggered ZIP Strip Sockets, 32 Position



3M™ Wafer De-Taping Tape 3305, 210 mm x 100 m, 4/Case

3M™ Power Connectors for CompactPCI™ Applications, Female, Solder and Press-fit Type

3M™ MetPak™ 2-FB Inverse Header, MP2 Series





3M™ Electrically Conductive Cushioning Gasket Tape ECG7073H



3M™ I/O Interconnect System 2.0 mm for IEEE 1394, 3E206 Series, 3E206-0100KV, 100... Ea/Case



3M™ Thermally Conductive Heat Spreading Tape (TCoHST) 9876-10, 500 mm x 50 m,... 1/Case



3M™ DIP Boardmount Socket .039" (1.0 mm) 999 Series



3M™ IP67 D-Sub Male/Female Connectors 8PC15 Series



3M™ Polycarbonate Carrier Tape 3202 2D Barcode Series



3M™ Polycarbonate Carrier Tape 3002 2D Barcode Series



3M™ USB3 Vision Industrial Camera Cable Assembly 1U30E Series



3M™ External PIM Absorber 1000



3M™ Multi-Channel I/O Twin Axial Cable Assembly 8MS8 Series



3M™ Mini Stack Connector Boardmount Header 3S6 Series



3M™ Mini Stack Connector Interface Unit 3ST Series



3M™ Polycarbonate Carrier Tape 3202R 2D Barcode Series



3M™ Lapping Film Roll 261X



3M™ Diamond Lapping Film Roll 661X



3M™ Camera Link Industrial Camera Cable Assembly, MDR, 14x26 Series



3M™ PoCL Cable Assembly 1SB26-L137-00C-300, Beige



3M™ CF Card Header, 7E50 Series, N7E50-X516XX-20



3M™ Lapping Film 869XW,  
Discs



3M™ Diamond Lapping Film  
662XW, Discs



3M™ Diamond Lapping Film  
Sheet 661X



3M™ Electrically Conductive  
Single-Sided Tape 1050TC  
Series



3M™ MetPak™ CP2 Press-Fit  
Socket, CP2 Series



3M™ Bumpon™ Protective  
Products SJ6176 Black,  
3000/Case



3M™ Bumpon™ Protective  
Products SJ5302 Clear with R25  
Adhesive, 3000/Case



3M™ Bumpon™ Quiet Clear  
Protective Products SJ6512,  
5000/Case



3M™ Bumpon™ Resilient  
Rollstock SJ6008



3M™ Bumpon™ Resilient Rollstock SJ5616



3M™ Bumpon™ Protective Products SJ5317 Clear, 1000/Case



3000UB 8mm 3M097541 50mpr 13in planetary



3M™ Lapping Film 865X, Final Polish Sheet, 6 in x 6 in, 50 Sheets/Inner, 500 Sheets/Case



3M™ Diamond Lapping Film 661X - Custom Sizes



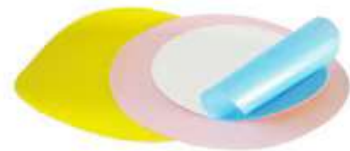
3M™ Twin Axial Cable, SL9900 Series, 4 Pair for MiniSAS or QSFP+



3M™ Lapping Film 263X, 0.05 Micron Disc, 5 in x NH, 50/Inner, 500/Case



3M™ Mini-Clamp Common Socket 37C Series



3M™ Lapping Film 266X, Discs



3M™ 100G QSFP28 to 2xQSFP28 Direct Attach Copper Cable Assemblies, 9S Series



3M™ Wetordry™ Polishing Paper 286Q, Discs



3M™ Textool™ Open-Top Sockets for QFN Applications, 264-5205-01



3M™ Electrically Conductive Single-Sided Tape 1020BC Series



3M™ Trizact™ Pad Conditioner



3M™ 100G QSFP28 Direct Attach Copper Cable Assemblies, 9Q Series



3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series



3M™ Thermally Conductive Acrylic Interface Pad 5550H



3M™ Polyester/Silicone Tape 851ST



3M™ Pak 50 Boardmount  
Socket, P50 Series



3M™ Trizact™ CMP Pad



3M™ Fluorinert™ Electronic  
Liquid FC-43



3M™ EMI Shielding Absorber  
AB6000HF/SHF Series



3M™ Bumpon™ Protective  
Products SJ61A1 Black,  
10,000/Case



3M™ EMI Absorber AB5000HF  
Series



3M™ Non Silicone, Acrylic High  
Temperature Masking Tape  
7414L



3M™ Bumpon™ Protective  
Products SJ57B1



3M™ Bumpon™ Quiet Clear  
Protective Products SJ6553,  
5000/Case





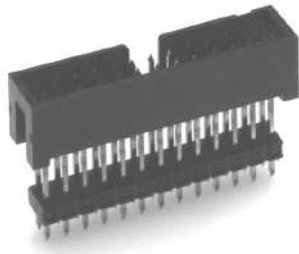
3M™ Bumpon™ Resilient  
Rollstock SJ6016



3M™ Bumpon™ Resilient  
Rollstock SJ5632 Clear R25FL,  
4.5 in x 72 yds, 1/Case



3M™ Bumpon™ Protective  
Products SJ5023



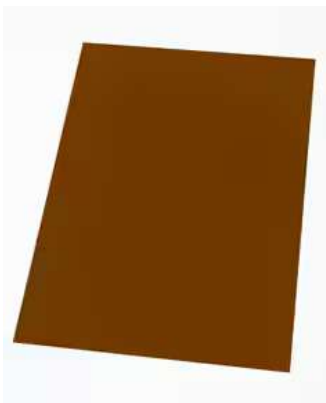
3M™ Shrink Shroud Headers,  
929 Series



3M™ Pin Strip Header, 2300  
Series



3M™ Pak 10 Surface Mount  
Socket, PK10 Series



3M™ Thermally Conductive  
Silicone Interface Pad 5515S



3M™ Through-Board Socket,  
966 Series



3M™ Pin Strip Header, 92X  
Series



3M™ Wiremount Socket  
CHG-20XX-001010-KXX CHG  
Series



3M™ Pak 50 Low Profile Socket,  
P50L Series



3M™ MetPak™ HSHM Press-Fit  
Header, HSHM Series



3M™ Connector for PC104  
Embedded Systems  
Applications, Compliant and B...  
Compatible, 4P01/4P02 Series



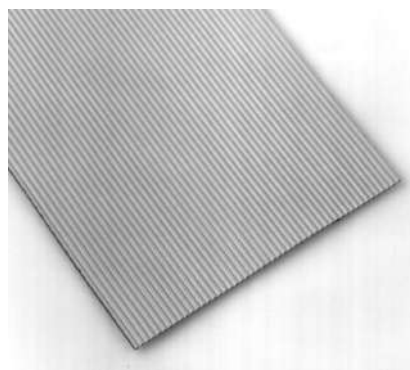
3M™ Mini Delta Ribbon (MDR),  
103XX-C200-00, 103 Series



3M™ Mini Delta Ribbon (MDR)  
Junction Shell 10350-1230-00,  
100 Each



3M™ High Routability Internal  
MiniSAS HD Cable Assembly,  
Right Angle Connector, 8U...  
Series



3M™ Round Conductor Flat  
Cable, 3849 Series



3M™ Pleated Foil Shielded  
Cable 90202 Series



3M™ Polyester/Silicone Tape  
852RW



3M™ 25G SFP28 Direct Attach  
Copper Cable Assemblies  
1422/1423 Series



3M™ Round Conductor Flat  
Cable 3625 Series



3M™ Round, Jacketed, Flat  
Cable, HF759 Series



3M™ Lapping Film 254X, Discs



3M™ Diamond Lapping Film  
661XU - Custom Sizes



3M™ Twin Axial Cable,  
SL8801/12 Series, 4 Pair, 4  
Sidebands on Side



3M™ Cable Accessory, Cable  
Clamp, 3484 Series



3M™ Textool™ Open-Top  
Sockets for QFN Applications,  
280-5205-01



3M™ Bumpon™ Protective Products SJ61A2 Black, 10,000/Case



3M™ Bumpon™ Resilient Rollstock SJ5801 Black R30FL, 4.5 in x 72 yds



3M™ Bumpon™ Protective Products SJ5329 Clear, 5000/Case



3M™ Bumpon™ Resilient Rollstock SJ6032



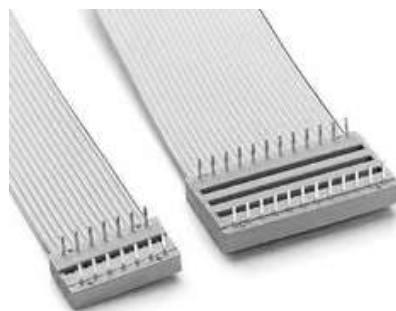
3M™ Bumpon™ Protective Products SJ5705SBCC, Black, 1000/Case



3M™ Wiremount Plug, 4600 Series



3M™ PCB, 78XX Series



3M™ Molded Assembly, .100 Series, 87 S26P26-3365-0070(RC)S26P26-3365-0070(RC)



3M™ Diamond Lapping Film 662XW, Sheets and Rolls



3M™ Thermally Conductive Acrylic Interface Pad 5578H



3M™ Twin Axial Cable, SL8802/08 Series, 4 Pair



3M™ Pak 50 Stacking Compression Connector, 388 Series



3M™ High-Routability miniSAS to SATA Fanout Cable Assemblies, 8S36 Series



3M™ Pak 10 Media Socket, PK10M Series



3M™ Mini Delta Ribbon (MDR) 10226-1A10PE Series



3M™ Novec™ 649 Engineered Fluid



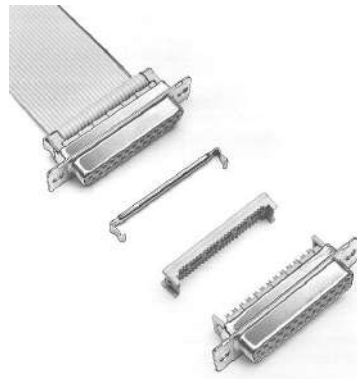
3M™ Novec™ Contact Cleaner Plus, 312 g (11 oz), 6 Canisters/Case



3M™ D Sub EMI Junction Shell, 3357-65XX-XX



3M™ Mini Delta Ribbon (MDR)  
102XX-1210PE Series



3M™ D Sub Socket 8300 Series



3M™ Mini Delta Ribbon (MDR)  
101XX-900AXX 101 Series



3M™ Mini-Clamp II Socket, 373  
Series



3M™ Ultra Hard Metric (UHM)  
Press-fit Socket Connectors,  
5-Row



3M™ Power Connectors for  
MicroTCA™ Applications, Male



3M™ DIP Socket, 4800 Series



3M™ Pin Strip Header, 951  
Series, 951415-9012206-AR



3M™ Mini Delta Ribbon (MDR)  
Cable Assembly, 1WL26-TZ3B-  
XXX-04C

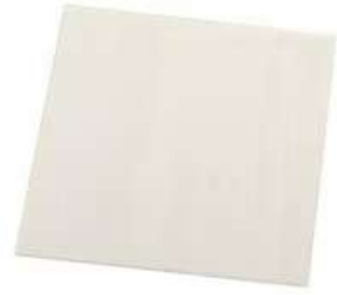




3M™ Mini Delta Ribbon (MDR) Cable Assembly



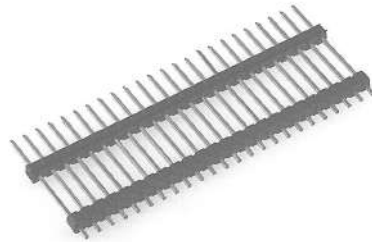
3M™ Circuit Plating Tape 1280



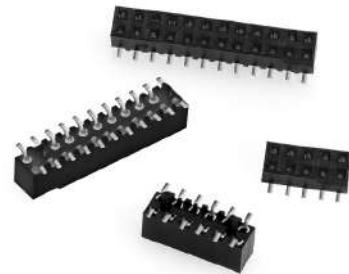
3M™ Thermally Conductive Acrylic Interface Pad 5500H



3M™ Fluorinert™ Electronic Liquid FC-770



3M™ Pin Strip Header, 929 Series



3M™ Boardmount Socket, 1502XX-20X0-XX-XX, 1502 Series



3M™ Power Backplane Female Socket Module for Hard Metric (HM) Applications, HM-PWR... SCK Series, HM-PWR-SCK-01-LR



3M™ Novec™ 1904 Electronic Grade Coating



3M™ Electrically Conductive Adhesive Transfer Tape 9709SL, 14 in x 108 yd, 1/Case, Bulk



3M™ Novec™ 71IPA  
Engineered Fluid



3M™ Shielded Controlled  
Impedance (SCI), Cable  
Assemblies, .100"



3M™ Novec™ 7100 Engineered  
Fluid



3M™ MetPak™ HM Press-Fit  
Socket, HM Series



3M™ Twin Axial Cable,  
Jacketed, SL9000 Series, 2 Pair,  
2 Center Drains



3M™ Shunt, 969 Series,  
969102-0000-DA



3M™ Heavy-Duty Assembly  
Press, 3335



3M™ Novec™ 4710 Insulating  
Gas



3M™ Through-Board Socket,  
953 Series



3M™ Intra-Switches



3M™ Thermally Conductive Adhesive Transfer Tape 8810, 4 in x 10 yds, Sample



3M™ High-Routability miniSAS to SATA Fanout Cable Assemblies, 8S36 Series



3M™ Through-Board Socket, 963 Series



3M™ Mini Delta Ribbon (MDR) Connectors, 103 Series



3M™ Shielded Controlled Impedance (SCI), Cable Assemblies, 2 mm



3M™ Shrunken Delta Ribbon (SDR) Connector, 122XX-5150-00FR, 122 Series



3M™ Pin Strip Header, 951 Series



3M™ Board Stacking Connector System, P05N Series, P05N-060ST-B-G



3M™ Electrically Conductive Double-Sided Tape 9723, 500 mm x 100 m



3M™ Textool™ Discrete Power In-Line Sockets 203-2737-55-1102, Black, 1... ea/Case



3M™ Thermally Conductive Adhesive Transfer Tape 8805, 4 in x 10 yds, Sample



3M™ Polyester Film Tape 854 White, 1 in x 72 yds, 2.7 mil, 36/Case, Bulk



3M™ Jacketed, Flat Cable, .050 in, 3602 Series, 3602/50, 100 ft



3M™ Round, Shielded/Jacketed, Flat Cable, HF659 Series



3M™ Cable Accessory, 3535 Series, 3535-0000,



3M™ Pak 50 I/O Socket, P50 Series



3M™ Textool™ Open-Top Sockets for QFN Applications, 260-5204-01



3M™ Boardmount Socket, 950 Series, 950420-7203-AR



3M™ D Sub EMI Junction Shell, 50 Pos



3M™ Industrial M12 Wiremount Connector 3N304-D000-S08 BF, Silver, 50 ea/Case



3M™ Pak 100 Shunt, 929 Series

3M™ Pak 10 Boardmount Plug, PK10M Series

3M™ D Sub EMI Junction Shell, Metal



3M™ Mini Delta Ribbon (MDR) Connectors, 102 Series



3M™ Mini-Clamp Socket 373 Series



3M™ CP2 Press-Fit Header, CP2 Series



3M™ MetPak™ 2-FB Inverse Socket, MP2 Series



3M™ Power Connectors for CompactPCI™ Applications, Male



3M™ CF Card Header, 7E50 Series, N7E50-X516XX-30



3M™ Chip Carrier Sockets, 8400 Series



3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14X36-SZ6B-XXX-0HC



3M™ Pleated Foil I/O Cable Assemblies, MDR Version



3M™ Mini Serial Attached SCSI (miniSAS) Cable Assembly, 8N36 Series

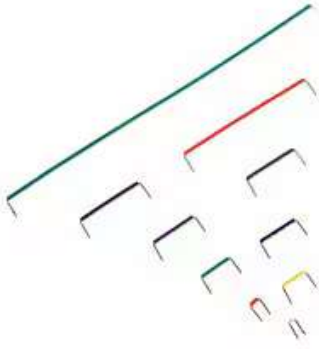


3M™ Textool™ Axial Lead ZIP Strip Sockets

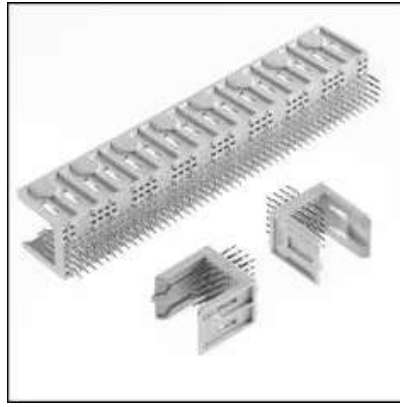


3M™ SOIC Surface Mount Test Clips





3M™ Jumper Wires



3M™ MetPak™ 2-FB Header  
MP2 Series



3M™ Mini Delta Ribbon (MDR)  
Cable Assembly .050"



3M™ Textool™ Test & Burn-In  
Ball Grid Array Sockets 92XX  
Series



3M™ Textool™ Test & Burn-In  
Ball Grid Array Sockets 90XX  
Series



3M™ Round Conductor Flat  
Cable, 3604 Series



3M™ Round Conductor Flat  
Cable, 3754 Series



3M™ Round, Jacketed, Flat  
Cable, 3834 Series



3M™ Round Shielded/Jacketed  
Discrete Wire Cable 3644X  
Series



3M™ Pak 50 Wiremount Socket, P50 Series



3M™ Wiremount Socket 79 Series



3M™ Camera Link Industrial Camera Cable Assembly, MDR, 1WL26 Series



3M™ Mini Delta Ribbon (MDR) Connectors, 102 Series



3M™ Mini-Clamp III Plug 37A Series



3M™ Power Clamp Wiremount Socket, 355 Series



3M™ HSHM Press-Fit Power Socket, HSHM Series



3M™ CP2 Press-Fit Header, CP2 Series



3M™ Power Connectors for CompactPCI™ Applications, Female, Solder and Press-fit Type



3M™ Twin Axial PCI Express X16 Extender Assemblies Gen 3.0



3M™ Connector for CFAST™ Card 7G24 Series



3M™ Mini Delta Ribbon (MDR) Cable Assembly



3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14B26-SZ3B-XXX-04C Series



3M™ Twin Axial Cable Assemblies for QSFP+ Applications 9Q Series



3M™ Twin Axial Cable Assembly for PCI Express x16 Jumper Applications



3M™ Twin Axial PCI Express X8 Extender Assemblies



3M™ Textool™ Flexible Array Solutions for Test Sockets (FAST)



3M™ Textool™ Universal DIP Sockets



3M™ Pak 100 Shunt 929 Series

3M™ Wiremount Socket, w/  
Optional Plastic or Metal Strain  
Relief, 3000 Series



3M™ MetPak™ HM Press-Fit  
Socket, HM Series



3M™ MetPak™ 2-FB Inverse  
Header, MP2 Series



3M™ Lapping Film 865X, Discs



3M™ Water-Resistant Boot, 378  
Series



3M™ 100G QSFP28 to  
4xSFP28 Direct Attach Copper  
Cable Assemblies, 9S Series



3M™ High Flex Life Cable, 3250  
Series



3M™ Wetordry™ Polishing  
Paper 486Q, Discs



3M™ Electrically Conductive Single-Sided Tape 3304BC-S



3M™ Bumpon™ Protective Products SJ61A4 Black, 5000/Case



3M™ Bumpon™ Protective Products SJ5804 Black R30FL, 9 in x 18 yds, 1/Case



3M™ Bumpon™ Protective Products SJ5337 Clear, 5000/Box



3M™ Battery Electrolyte HQ-115U



3M™ Bumpon™ Protective Products SJ6115 Black, 3000/Case



3M™ Bumpon™ Protective Products SJ5744 Black, 2600/Case



3M™ Bumpon™ Protective Products SJ5327 Clear, 1000/Case



3M™ Bumpon™ Protective Products SJ5076, Black, 3000/Case



3M™ Polycarbonate Precision Carrier 3000BD



3M™ Power Clamp Terminator, 35T Series



3M™ Polishing Film 968M, 5 in x NH PSA Disc, 50/Inner, 500/Case



3M™ Lapping Film Sheet 461X



3M™ Diamond Lapping Film 663X, Sheets and Rolls



3M™ Textool™ Open-Top Sockets for QFN Applications, 248-4205-01



3M™ Pak 50 Low Profile Plug, P50L Series



3M™ Textool™ Open-Top Sockets for QFN Applications, 244-5205-00



3M™ Metal Shielding Gasket MSG6030F, 300 mm x 13 m, 0.30 mm, 1/Case





3M™ Novec™ 7100DL  
Engineered Fluid



3M™ Trizact™ Composite Slurry  
DT-50



3M™ Novec™ 1902 Electronic  
Grade Coating



3M™ Novec™ 72DE  
Engineered Fluid



3M™ Electrically Conductive  
Adhesive Transfer Tape 9719,  
14 in x 36 yd, 1 Roll/Case



3M™ Electrically Conductive  
Cushioning Gasket Tape  
ECG8055H



3M™ Universal Press, 3316



3M™ Through-Board Socket,  
956 Series



3M™ Pin Strip Header, 961  
Series



3M™ Pak 50 Boardmount Plug,  
P50E Series

3M™ Boardmount Socket, 929  
Series

3M™ Ultra-Thin Water Contact  
Indicator Tape 5559i



3M™ MetPak™ HM Press-Fit  
Socket, HM Series

3M™ Round Shielded/Jacketed  
Discrete Wire Cable 3647B/36,  
300 ft

3M™ Serial Attached SCSI  
(SAS) Connector, SBR-EV-29-  
P-ML, SBR Series



3M™ Twin Axial Cable,  
SL8803/08 Series, 4 Pair, 8  
Drains

3M™ Four-Wall Header Straight  
Compliant Pin 3000 Series

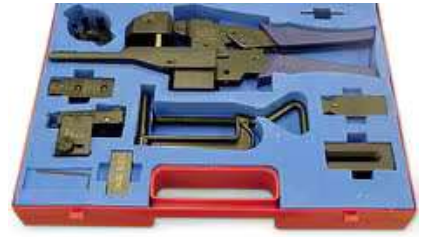
3M™ Boardmount Socket, 950  
Series



3M™ Pak 50 Low Profile Socket, P50L Series



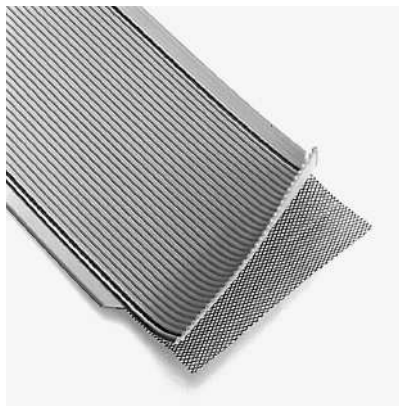
3M™ High Routability Internal MiniSAS HD Cable Assembly, Shortened Connector, 8U Series



3M™ MDR Hand Press, 3829



3M™ Round Conductor Flat Cable 3609 Series



3M™ Ground Plane Cable, 3353 Series



3M™ Round Conductor Flat Cable, 3667 Series



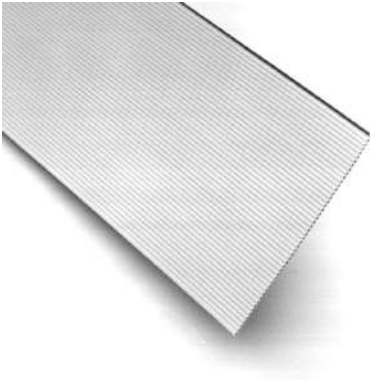
3M™ Round Conductor Flat Cable 3801 Series



3M™ Camera Link Industrial Camera Cable Assembly, MDR/SDR, 1Mx26-x5xx Series



3M™ Novec™ 1230 Fire Protection Fluid



3M™ Round Conductor Flat Cable 3365 Series



3M™ Electrically Conductive Double-Sided Tape 5113DFT



3M™ PIM Reduction Kit, 1300



3M™ Round, Jacketed, Flat Cable, 3759 Series



3M™ Pak 50 Low Profile Wiremount Socket, P25LE Series



3M™ Mini-Clamp III Socket 37B Series



3M™ Heat Resistant Polyimide Film Tape 7414



3M™ Lapping Film 263X Sheets



3M™ I/O Interconnect System 2.0 mm for IEEE 1394, 3E106 Series, 3E106-2230KV, 100...  
Ea/Case



3M™ Diamond Lapping Film Sheet 668X



3M™ Electrically Conductive Adhesive Transfer Tape 9712



3M™ Power Clamp Header Straight 356 Series



3M™ Connector for PC104 Embedded Systems Applications, Bus Compatibl... 4P01/4P02 Series



3M™ CF Card Ejector and Latching Retainer, 7E50 Series



3M™ Mini Delta Ribbon (MDR) Cable Assembly, 4120-4120-XX-B Series



3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14520-EZDB-XXX-0EC



3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14526-EZ8B-XXX-07C



3M™ Twin Axial Cable Assembly for Internal miniSAS Applications, 8F36 Series



3M™ High-Routability External miniSAS Cable Assembly, 8G26 Series



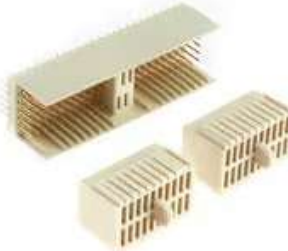
3M™ Textool™ Test & Burn-In SOIC Sockets



3M™ PLCC Surface Mount Test Clips



3M™ Molded Assembly 2M Series



3M™ MetPak™ HM Power Header, HM Series



3M™ Textool™ Test & Burn-In Ball Grid Array Sockets 93XX Series



3M™ Lapping Film 863XW, 0.02 Micron Disc, 5 in x NH, 50/Inner, 500/Case



3M™ Lapping Film 265X, Discs



3M™ Electrically Conductive Single-Sided Tape CEF-3BV, 1240 mm x 50 m, 1 Roll/Case





3M™ Bumpon™ Quiet Clear  
Protective Products SJ6503,  
5000/Case



3M™ Surface Protection Tape  
3K10C



3M™ Electrically Conductive  
Cushioning Gasket Tape  
ECG7033H



3M™ Bumpon™ Protective  
Products SJ61A6 Black,  
10,000/Case



3M™ Bumpon™ Protective  
Products SJ6102 White,  
3000/Case



3M™ Bumpon™ Protective  
Products SJ5398



3M™ Trizact™ Polishing Pad  
HT-250



3M™ Ejector for CFast™ Card,  
7G24 Series



3M™ Battery Electrolyte  
HQ-115W



3M™ Bumpon™ Protective Products SJ6125 Black, 3000/Case



3M™ Bumpon™ Protective Products SJ5344 Clear, 2600/Case



3M™ Bumpon™ Protective Products SJ5201 Light Brown, 3000 per case



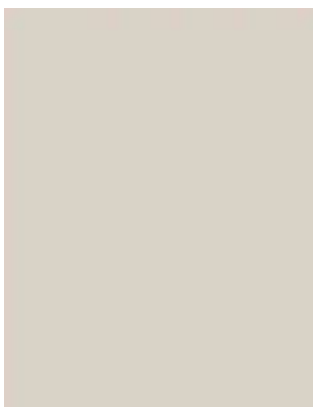
3M™ Clear Polycarbonate Carrier 2705



3M™ Static Dissipative Heat Activated Cover Tape 2671A



3M™ Lapping Film 268X - Custom Sizes



3M™ Diamond Lapping Film 666XW, 1.0 Micron PSA Sheet, 4.94 in x 2 in, 50/Inner, ... 500/Case



3M™ Textool™ Open-Top Sockets for QFN Applications, 256-4205-01



3M™ Pak 50 I/O Cable Plug, P50 Series



3M™ Textool™ Open-Top Sockets for QFN Applications, 216-5205-01



3M™ Metal Shielding Gasket MSG6060F, 385 mm x 10 m x 0.6 mm



3M™ Novec™ 7200DL Engineered Fluid



3M™ Electrically Conductive Thermosetting Film 2201P, 360 mm x 100 m, 2 Rolls/Case



3M™ Heat Resistant Polyimide Tape 7416Y



3M™ Novec™ Contact Cleaner, 312 g (11 oz), 6 Canisters/Case



3M™ Ionic Liquid Precursor HQ-115IL



3M™ Thermally Conductive Adhesive Transfer Tape 8820, 4 in x 10 yds, Sample



3M™ Electrically Conductive Cushioning Gasket Tape ECG8035H



3M™ Camera Link Industrial Camera Cable Assembly, SDR, 1Sx26-x1xx Series



3M™ Boardmount Socket .050" (1.27mm) 9X9 Series



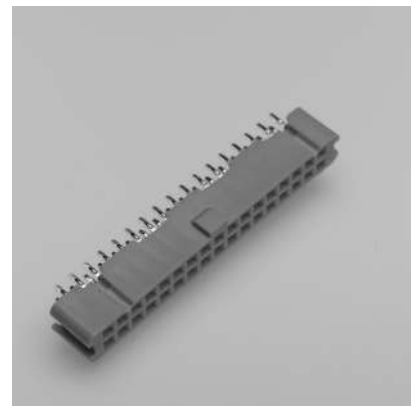
3M™ Diamond Lapping Film 660XV



3M™ Trizact™ Pad Conditioner T Series



3M™ Through-Board Socket, 963 Series



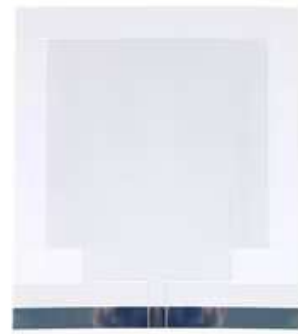
3M™ Polarized Boardmount Socket, 6800 Series



3M™ Pak 50 Boardmount Plug, P50 Series



3M™ Boardmount Socket, 950 Series



3M™ Transparent Conductor Film Assembly



3M™ Very Low Outgassing Polyester Seal Tape 6690SP



3M™ Lapping Film Sheet 268X



3M™ Serial Attached SCSI (SAS) Connector, SBH Series



3M™ Pin Strip Header, 951 Series



3M™ Boardmount Socket, 950 Series



3M™ Shrunken Delta Ribbon (SDR) Connector, 122XX-8250-00FR, 122 Series



3M™ Industrial M12 Wiremount Connector 3N104-D000-S08 BF, Silver, 50 ea/Case



3M™ Mini Delta Ribbon (MDR) Junction Shell 103XX-3280-000-X



3M™ Medium Flex Life Cable, 3539 Series



3M™ Round Conductor Flat Cable, 8125 Series



3M™ Round, Jacketed, Flat Cable, 3758 Series



3M™ D Ribbon Wiremount Socket, Molded Shell, 3000 Series



3M™ Pak 50 Socket, P50 Series



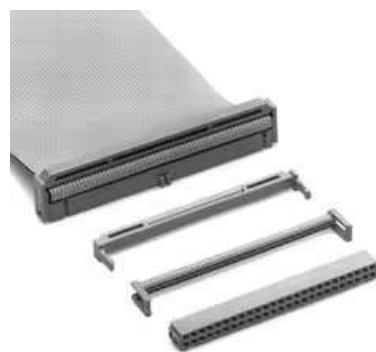
3M™ One Piece Branch Link Connector, 387 Series



3M™ I/O Interconnect System 2.0 mm for IEEE 1394, 3E106 Series, 3E106-0220KV, 100... Ea/Case



3M™ Thermally Conductive Interface Tape 8711-125, 550 mm x 70 m



3M™ IDC Ribbon Cable Socket, 891 Series



3M™ Boardmount D-Sub Straight Plug Connector 884 Series





3M™ Heat Resistant Polyimide Tape 7421



3M™ CoaXPress Cable Assembly 1CXx-xx-0G Series



3M™ Pin Strip Header .050" (1.27mm) 908 Series



3M™ D Sub Junction Shell



3M™ Mini Delta Ribbon (MDR), 102XX-R2XXS 102 Series



3M™ Mini Delta Ribbon (MDR), 102XX-22X0XE, 102 Series



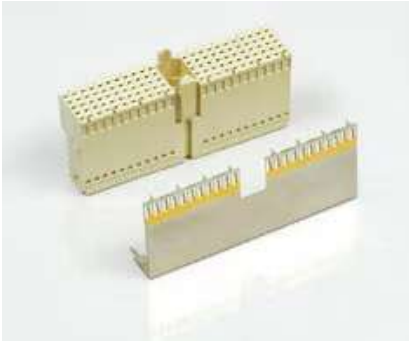
3M™ Power Clamp Header Right Angle 356 Series



3M™ Pak 50 Stacking Compression Connector, 388 Series



3M™ MetPak™ Shroud, CP2 Series



3M™ CP2 Press-Fit Socket,  
CP2 Series



3M™ MetPak™ 2-FB Power  
Socket, MP2 Series



3M™ PC104 Plus Embedded  
System, 5P03 Series,  
5P03-2012-DA



3M™ High-Speed Card-Edge  
Connector, SPD08 Series



3M™ Card Connector  
microSD™, 2900 Series



3M™ Shrunken Delta Ribbon  
(SDR) Cable Assembly,  
1SD14-3120-0CC-xxx, for Po...  
over Camera Link(R) (PoCL) Lite  
Applications



3M™ Twin Axial Cable  
Assembly for PCI Express x8  
Jumper Applications,...  
8KH3-0734-0250



3M™ Monosignal 2-Pin PCB



3M™ LCC Surface Mount Test  
Clips



3M™ Jumper Wire Kit - Assortment (923351-I)



3M™ Bumpon™ Protective Products SJ61B15 Black, 3000/Case



3M™ Bumpon™ Protective Products SJ6105 Black, 1000/Case



3M™ Bumpon™ Protective Products SJ5412 White, 3000/Case



3M™ Novec™ Contact Cleaner/Lubricant, 340 g (12 oz), 6 Canisters/Case



3M™ Trizact™ Composite Slurry DT-100



3M™ Inverse DIN 41612 Header, 7064 Series, 7064-60B3TH



3M™ Low Profile I/O Twin Axial Cable Assembly



3M™ Bumpon™ Protective Products SJ61A3 Black, 10,000/Case



3M™ Bumpon™ Resilient Rollstock SJ5816



3M™ Bumpon™ Protective Products SJ5378 Clear, 1500/Case



3M™ Bumpon™ Protective Products SJ5303



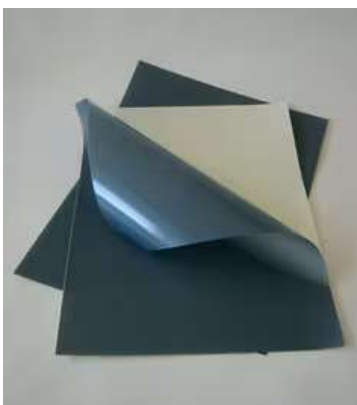
3M™ Bumpon™ Protective Products SJ5003



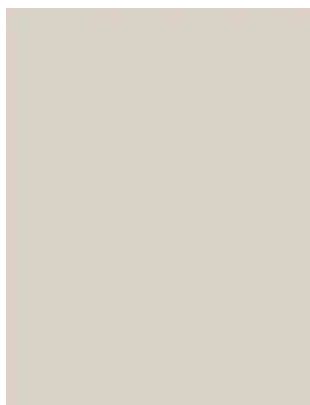
3M™ Pressure Sensitive Cover Tape 2698



3M™ Lapping Film 261X - Custom Sizes



3M™ Lapping Film 468X - Custom Sizes



3M™ Diamond Lapping Film 676XY



3M™ Textool™ Open-Top Sockets for QFN Applications, 264-4205-00



3M™ MetPak™ HM Header, HM Series



3M™ Cable Assemblies for SFP+ Applications, Red or Blue Jacketed Versions



3M™ Pin Strip Header, 929 Series



3M™ Cell Expansion Foam CEF-XXX (H2H-XXX)



3M™ Lapping Film 462X, Discs



3M™ Branch Mini-Clamp Link Connector, 38A Series



3M™ Textool™ ZIP Strip Sockets



3M™ Trizact™ Polishing Pad HT-800-PC



3M™ Thermally Conductive Adhesive Tape 8910-03



3M™ Bumpon™ Resilient Rollstock SJ6212 Black R25FL, 4.5 in x 36 yds



3M™ Bumpon™ Protective Products SJ6112



3M™ Bumpon™ Protective Products SJ5508



3M™ Bumpon™ Protective Products SJ5370 Clear, 3000/Case



3M™ Bumpon™ Resilient Rollstock SJ6208



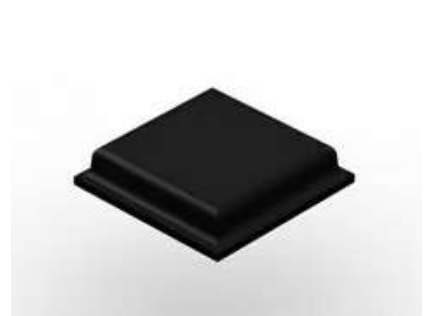
3M™ Bumpon™ Resilient Rollstock SJ5832



3M™ Bumpon™ Protective Products SJ5382



3M™ Bumpon™ Protective Products SJ5306



3M™ Bumpon™ Protective Products SJ5007





3M™ High Shear Pressure Sensitive Cover Tape 2668



3M™ Diamond Pad Conditioner Ring



3M™ Lapping Film 262X, Sheets and Rolls



3M™ Thermally Conductive Silicone Interface Pad 5300-SP



3M™ Mini Delta Ribbon (MDR) Cable Assembly .050", 14536-SZ6B-XXX-0HC Series



3M™ Twin Axial Cable, SL8801/11 Series, 5 Pair, 2 Drains, 1 Sideband in Center



3M™ Serial Attached SCSI (SAS) Connector, SBR-RA-29-S-ML, SBR Series



3M™ CF Card Header, 7E50 Series



3M™ Camera Link Industrial Camera Cable Assembly, MDR/SDR, 1Mx26-xFxx Series



3M™ Diamond Pad Conditioner  
C Series



3M™ Novec™ 8200 Engineered  
Fluid



3M™ Novec™ 1720 Electronic  
Grade Coating



3M™ Novec™ 1700 Electronic  
Grade Coating



3M™ Novec™ 7300 Engineered  
Fluid



3M™ SlimLine Twin Axial Cable  
Assembly, SFF-8654, 8ES8, x8,  
85ohm, 31AWG



3M™ Very Low-Outgassing  
Polyester Tape 8439



3M™ EMI Absorber AB7000HF  
Series



3M™ Thermally Conductive  
Acrylic Interface Pad 5571



3M™ Electrically Conductive Adhesive Transfer Tape 9703



3M™ Electrically Conductive Cushioning Gasket Tape ECG8075H



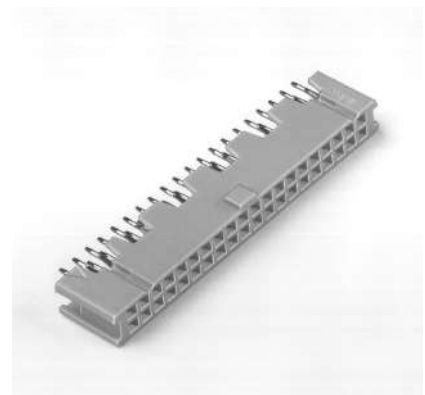
3M™ Thermally Conductive Adhesive Transfer Tape 8815, 4 in x 10 yds, 6/Case, Sample



3M™ Strain Relief Accessory Series 3448-8DXXA



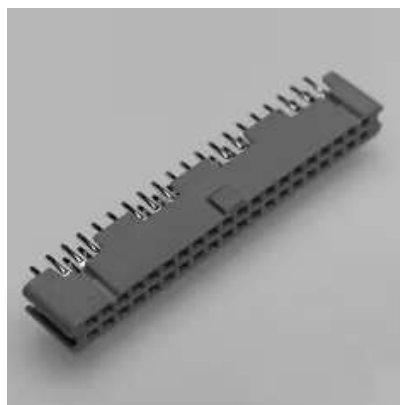
3M™ Thru-Board Socket, 929 Series



3M™ Polarized Boardmount Socket, 8500 Series



3M™ Through-Board Socket, 1532 Series



3M™ Polarized Boardmount Socket, 9100 Series



3M™ Pak 50 Plug, P50 Series



3M™ Four-Wall Condo Header  
3000 Series



3M™ DIN R-Form Socket, DIN  
41612 Series



3M™ Wiremount Socket, 3000  
Series



3M™ I/O Interconnect System  
2.0 mm for IEEE 1394 3E106  
Series



3M™ Diamond Lapping Film  
664X, 45.0 Micron PSA Disc, 8  
in x NH, 25/Inner, 250/Case



3M™ Lapping Film 461X, Discs



3M™ Diamond Lapping Film  
666XW, 6.0 Micron PSA Disc, 5  
in x NH, 25/Inner, 250/Case



3M™ Pak 50 Boardmount Plug,  
P50 Series



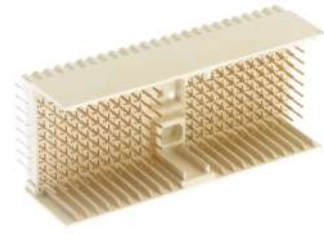
3M™ Shielded Compact Ribbon  
(SCR) Connectors 363 Series



3M™ Four-Wall Header Straight and Right Angle 3000 Series



3M™ Mini-Clamp Socket Straight 372 Series



3M™ HM Header, 8-Row, HM Series



3M™ XYZ-Axis Electrically Conductive Adhesive Transfer Tape 9720S



3M™ Standard Assembly Press 3640, Silver, 1 ea/Case



3M(TM) Pin Strip Header, 961 Series, 961106-5500-AR-PR



3M™ D Ribbon Wiremount Socket, Metal Faced, 3000 Series



3M™ Shielded/Jacketed, Flat Cable, 3517 Series



3M™ High Flex Life Cable, 3319 Series



3M™ Medium Flex Life Cable,  
Halogen-Free, HF539 Series



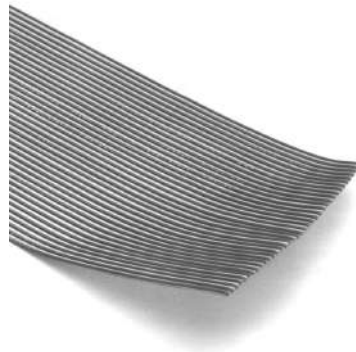
3M™ Round Conductor Flat  
Cable, 3355 Series



3M™ Pleated Foil Shielded  
Cable, 90111 Series



3M™ Pleated Foil Shielded  
Cable, 93101 Series



3M™ Round Conductor Flat  
Cable, 8124 Series



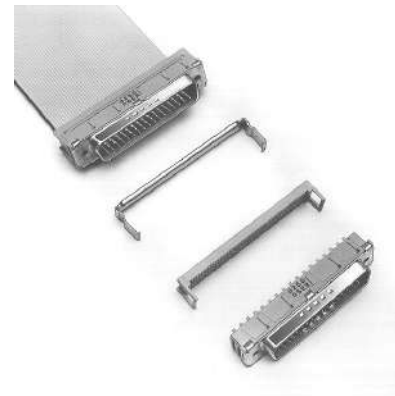
3M™ Round Conductor Flat  
Cable, 3756 Series



3M™ Twisted Pair Flat Cable  
HF100 Series



3M™ Mini Delta Ribbon (MDR),  
102XX-M218XE, 102 Series



3M™ D Sub Plug, 8250 Series,  
8250-7005





3M™ HDC Header, HDC Series,  
HDC-S160-41S1-KR



3M™ MetPak™ HM Press-Fit  
Power Socket, HM Series



3M™ Pak 50 Power Ground  
Socket, P50 Series



3M™ CP2 Press-Fit Header,  
CP2 Series



3M™ CP2 Press-Fit Socket,  
CP2 Series, CP2-SAB110-G1-FJ



3M™ Eurosocket, 62B64 Series



3M™ Eurosocket, 62CXX Series



3M™ Card-Edge, XXXX-0000,  
3000 Series



3M™ Mini Serial Attached SCSI  
(miniSAS) Connector/Shell,  
Vertical, 8A36/8B36 Series



3M™ Mini D Ribbon (MDR) Cable Assembly, 14H26-SZ3X-XXX-04C Series, 14H26-... SZ3M-700-04C



3M™ Twin Axial Cable Assemblies for 40G QSFP+ FDR Applications, ... 9QA0-112-13-2.50



3M™ Twin Axial PCI Express X4 Extender Assemblies



3M™ Surface Protection Tape 3K12H



3M™ Electrically Conductive Cushioning Gasket Tape ECG7053H



3M™ Novec™ Flux Remover, 340 g (12 oz), 6 Canisters/Case



3M™ Novec™ Electronic Degreaser, 340 g (12 oz), 6 Canisters/Case



3M™ HDC Shroud, HDC Series



3M™ Round Conductor Round Cable for CC-Link, 79100 Series



3M™ Bumpon™ Protective Products SJ61A8 Black, 10,000/Case



3M™ Bumpon™ Protective Products SJ6103 Black, 3000/Case



3M™ Bumpon™ Protective Products SJ5402



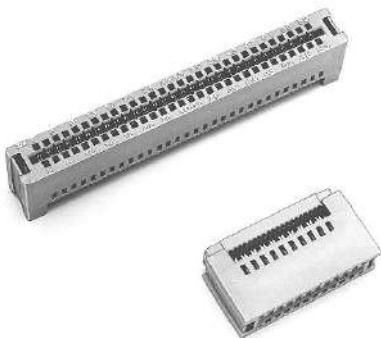
3M™ Power Clamp Branch Connector Y-Type 357 Series



3M™ HDC Plug, HDC Series



3M™ MetPak™ 2-FB Stacking Socket, MP2 Series



3M™ Card-Edge, XXXX-0001, 3000 Series



3M™ Mini Serial Attached SCSI (miniSAS) Connector Assembly, Internal Vertical, 8AB36 Series



3M™ Bumpon™ Protective Products SJ6148 Black, 2500/Case



3M™ Bumpon™ Resilient Rollstock SJ5808



3M™ Bumpon™ Protective Products SJ5376 Clear, 3000/Case



3M™ Bumpon™ Protective Products SJ5202 Light Brown, 3000 per case



3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14150-EZBB-XXX-0LC



3M™ Polycarbonate Ultra Precision Carrier (UPC) 3000UP



3M™ Textool™ Open-Top Sockets for QFN Applications, 260-4204-01



3M™ Pak 10 Media Plug, PK10M Series



3M™ HSHM Press-Fit Header, 5-Row, HSHM Series



3M™ Textool™ Laser Diode Sockets



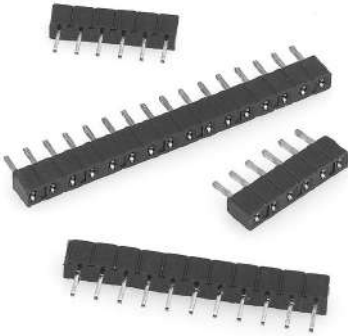
3M™ .100" Wiremount IDC Socket Accessories



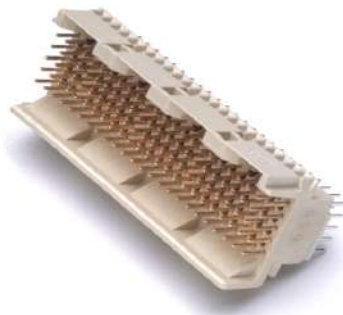
3M™ Metal Shielding Gasket MSG6100F, 385 mm x 10 m x 1 mm, 1/Case



3M™ Novec™ 72FL Engineered Fluid



3M™ Boardmount Socket, 929 Series



3M™ MetPak™ 2-FB Inverse Header, MP2 Series



3M™ Round Conductor Flat Cable for Link Connector 79100-075-4F1, 200 m,... Black/Red/White/Green, 1 ea/Case



3M™ SlimLine Twin Axial Cable Assembly, SFF-8654, 8ES4, x4, 85ohm, 30AWG



3M™ Novec™ 71DA Engineered Fluid



3M™ Novec™ 1908 Electronic Grade Coating



3M™ Fluorinert™ Electronic Liquid FC-40



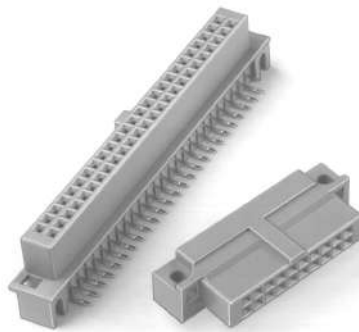
3M™ Pull Tab, 891 Series



3M™ Water Contact Indicator Tape 5557



3M™ Through-Board Socket, 966 Series



3M™ Polarized Boardmount Socket, 5100 Series



3M™ Pak 50 I/O Plug, P50 Series



3M™ Boardmount Socket, 960 Series



3M™ Assembly Nest, 3481 Series



3M™ MetPak™ 2-FB Power Header, MP2 Series





3M™ 4-Wall Tripolarized Header  
810 Series



3M™ Pin Strip Header, 951  
Series, 951108-4620-AR-PR



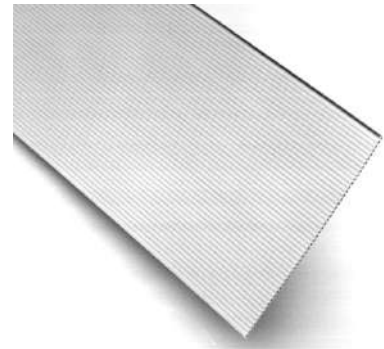
3M™ Electrically Conductive  
Adhesive Transfer Tape 9707,  
14 in x 108 yd, 1 Roll/Case



3M™ Textool™ Test & Burn-In  
IPGA Sockets



3M™ Thermally Conductive  
Heat Spreading Tape (TCoHST)  
9876-15, 500 mm x 50 m



3M™ Round Conductor Flat  
Cable 3601 Series



3M™ Round Conductor Flat  
Cable, 8132 Series



3M™ Round Conductor Flat  
Cable, 3749 Series



3M™ Round Conductor Flat  
Cable, HF625 Series



3M™ Round, Shielded/Jacketed, Flat Cable, 3659 Series



3M™ Round Shielded/Jacketed Discrete Wire Cable 3600X Series



3M™ Pak 50 Wiremount Socket, P50E Series



3M™ Polarized Wiremount Socket, CHG Series, CHG-2016-J01010-KEP



3M™ Shielded Compact Ribbon (SCR) Connectors, 362 Series



3M™ Shrunk Delta Ribbon (SDR) Connector, 122XX-1150-00FR, 122 Series



3M™ Power Clamp Branch Connector H-Type 357 Series



3M™ HDC Socket, HDC Series



3M™ MetPak™ HM Press-Fit Socket, HM Series



3M™ Power Backplane Female Connector for ATCA™ Application



3M™ Mini Serial Attached SCSI (miniSAS) Connector/Shell, Right Angle, 8A36/8B36 Series



3M™ Cable Accessory, 3617 Series



3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14526-EZHB-XXX-0QC



3M™ Twin Axial PCI Express X16 Extender Assemblies Gen 4.0



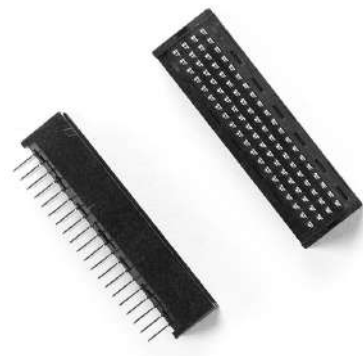
3M™ Textool™ ZIP DIP Sockets



3M™ Molded Assembly 1M Series



3M™ Shunt, 959 Series



3M™ Pak 50 Boardmount Header, 108 Series



3M™ EMI Absorber AB5000SHF Series



3M™ Battery Electrolyte HQ-115



3M™ Novec™ 73DE Engineered Fluid



3M™ Lapping Film Sheet 468XY



3M™ Bumpon™ Protective Products SJ6118 Gray with R25 Adhesive, 3000/Case



3M™ Electrically Conductive Double-Sided Tape 9701



3M™ Lapping Film Disc 468XY



3M™ Diamond Lapping Film Disc 661XU



3M™ Mini Delta Ribbon (MDR) 102XX-52XX 102 Series



3M™ Lapping Film Disc 061X



3M™ Bumpon™ Protective Products SJ5739 Black, 2000/Case



3M™ Bumpon™ Protective Products SJ5009



3M™ Mini Delta Ribbon (MDR) Junction Shell 103XX-5XXX



3M™ Fluorinert™ Electronic Liquid FC-72



3M™ Ionic Liquid Antistat FC-5000



3M™ Diamond Lapping Film Roll 631X



3M™ Bumpon™ Protective Products SJ5012



3M™ Fluorinert™ Electronic Liquid FC-70



3M™ Electrically Conductive Adhesive Transfer Tape 9750



3M™ Unsupported Conductive Adhesive Transfer Tape 97057



3M™ Performance Fluid PF-5058



3M™ MetPak™ Shroud, CP2 Series



3M™ Diamond Lapping Film Sheet 631X



3M™ Diamond Lapping Film Roll 661XU



3M™ Bumpon™ Protective Products SJ5077 Black, 2000/Case



3M™ Bumpon™ Protective Products SJ5018



3M™ Twin Axial Cable, SL8802 / 24-BYEN5-00, 31AWG, 12 Pair, 85 ohm, Low Loss, 500 ft





3M™ Bumpon™ Resilient  
Rollstock SJ5208 Light Brown,  
4.5 in x 36 yds, 1/Case



3M™ Bumpon™ Protective  
Products SJ5001 Black,  
3000/Case



3M™ Super-Strip 2 Breadboard,  
Alloy, (923252-I), 10 Each/Case



3M™ Bumpon™ Protective  
Products SJ5027



3M™ DIP Thru-Hole Nail Head  
Test Clips



3M™ Breadboard Plug & Solder  
Strip Systems, 3397 Series



3M™ Single Row Socket  
Breadboard Systems



3M™ DIP Long Wire Cable  
Assembly Compatible Test Clips



3M™ Open End Logical  
Connection Cable Assemblies



3M™ Diamond Lapping Film  
Roll 668X



3M™ Diamond Lapping Film  
661XU, 0.50 Micron Sheet, 6 in  
x 6 in, 25/Inner, 250/Case



3M™ CHG Connector Tools



3M™ Plug Knockout Tools



3M™ Lapping Film Roll 061X



3M™ DIP Logical Connection  
Cable Assemblies



3M™ Solderless Breadboards,  
300 Series



3M™ Intra-Connector



3M™ Bumpon™ Protective  
Products SJ5780 Black,  
2600/Case



3M™ Performance Fluid  
PF-5060



3M™ Lapping Film Roll 863XW



3M™ Electrically Conductive  
Double-Sided Tape 9722S  
Series



3M™ Dual Socket Breadboard  
Systems



3M™ Diamond Lapping Film  
Disc 631X



3M™ Lapping Film 468X, 9.0  
Micron PSA Sheet, 8.50 in x 11  
in, 50/Inner, 200/Case



3M™ Wetordry™ Polishing  
Paper Sheet 481Q



3M™ Performance Fluid  
PF-5056



3M™ Lapping Film Roll 468X



3M™ Lapping Film 061X, 0.50 Micron Sheet, 8.50 in x 11 in, 50/Inner, 200/Case



3M™ Fluorinert™ Electronic Liquid FC-3284



3M™ Discrete Wire Block, 3445



3M™ Pin Strip Header, 961 Series



3M™ Insertion Platen, 3442-00XX Series



3M™ Mini Delta Ribbon (MDR) Connectors Dust Cover 3412-102XX



3M™ Locator Plate Riser Block, 3458



3M™ Performance Fluid PF-5052, 340 kg (750 lb), 1 Drum



3M™ Strain Relief for 3M™ D Ribbon Wiremount Socket, Molded Shell, 3000 Series



3M™ MetPak™ Shroud, CP2 Series



3M™ DIP Knife Edge Test Clips



3M™ Flat Cable Retainer, 3547



3M™ Novec™ 612 Magnesium Protection Fluid

# 3M™ Novec™ 612 Magnesium Protection Fluid

## Details

SF6 Replacement Gas  
Ultra Low Global Warming Potential  
Low toxicity  
More reactive at melt temperatures than SF6, enabling lower use concentrations  
Minimal equipment/process modifications needed

## Typical properties

Application: Magnesium Protection  
Boiling Point (Celsius): 49 °C  
Boiling Point (Fahrenheit): 120 °F  
Boiling Point Range: 0 °C - 50 °C  
Density: 1.6 g/cm<sup>3</sup>  
Dielectric Strength Range: 20 - 35 kV  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: Very High  
GWP (IPCC 2007): 1 (100 yr ITH)  
GWP Range: Very Low  
Hydrocarbon Solubility: Low  
Net Weight (Imperial): 38 lb, 661 lb, 2810 lb  
Net Weight (Metric): 17.2 kg, 300 kg, 1100 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -108 °C  
Pour Point (Fahrenheit): -162 °F  
Product Series: Novec 612  
Purity Grade: Standard  
Replacement For: SF<sub>6</sub>  
Volume (Imperial): 55 gal, 200 gal  
Volume (Metric): 250.035 L, 909.218 L

## Dimensions and Classifications

Overall Height (Imperial): 54 in  
Overall Height (Metric): 137.16 cm  
Overall Length (Imperial): 46 in  
Overall Length (Metric): 116.84 cm  
Overall Width (Imperial): 46 in  
Overall Width (Metric): 1168.4 mm



## **3M™ Performance Fluid PF-5058**

### **Details**

Thermal stability  
Chemical stability  
Wide liquid range  
Non-conductive

### **Typical properties**

Application: Deposition Solvent, Heat Transfer  
Boiling Point (Celsius): 100 °C  
Boiling Point (Fahrenheit): 212 °F  
Density (Imperial): 14.604 lb/gal  
Density (Metric): 1.75 g/ml  
Dielectric Strength Range: >35 kV  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: Very High  
GWP (IPCC 2007): >5000 (100 yr ITH)  
GWP Range: High  
Hydrocarbon Solubility: Low  
Maximum Use Temperature (Celsius): 250 °C  
Maximum Use Temperature (Fahrenheit): 482 °F  
Net Weight (Imperial): 11 lb, 44 lb, 750 lb  
Net Weight (Metric): 5 kg, 20 kg, 340 kg  
Plastic Elastomer Compatibility: Excellent  
Product Series: PF-5058  
Product Usage: Deposition Solvent  
Volume (Imperial): 0.75 gal, 3.5 gal, 55 gal  
Volume (Metric): 2.839 L, 15.911 L, 250.035 L  
eClass 14 Classification Group: 23060490

# 3M™ Electrically Conductive Adhesive Transfer Tape 9750

## Details

XYZ-conductivity through the adhesive  
Good EMI shielding in bond line gap  
Good handling and workability

## Typical properties

Adhesion Strength (Imperial): 2000 gf/in  
Adhesive Type: Acrylic  
Application: Electrostatic Discharge (ESD), Grounding  
Backing (Carrier) Material: Non-woven  
Electrical Resistance: Z-axis 0.02  $\Omega$   
Factory ISO Certification: No ISO Certification information available  
Liner Material: Paper  
Maximum Operating Temperature (Celsius): 121 °C  
Maximum Operating Temperature (Fahrenheit): 250 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Product Color: Gray  
Product Usage: Bond Line Gaps, Chassis, Flexible Printed Circuits  
Shelf Life: 12 Month  
Total Tape Thickness without Liner (Imperial): 2.2 mil  
Total Tape Thickness without Liner (Metric): 0.055 mm

## Dimensions and Classifications

Overall Length (Imperial): 54.681 yd, 218.723 yd  
Overall Length (Metric): 50 m, 200 m  
Overall Width (Imperial): 41.339 in  
Overall Width (Metric): 1050 mm

# 3M™ Fluorinert™ Electronic Liquid FC-70

## Details

Thermal stability  
Chemical stability  
Wide liquid range  
Non-conductive  
Narrow boiling range  
Compatibility

## Typical properties

Application: Heat Transfer  
Boiling Point (Celsius): 215 °C  
Boiling Point (Fahrenheit): 419 °F  
Boiling Point Range: >200 °C  
Compatibility: Metal, Plastic  
Density: 1.94 g/cm<sup>3</sup>  
Dielectric Strength Range: >40 kV  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: Very High  
GWP (IPCC 2007): >5000 (100 yr ITH)  
GWP Range: High  
Hydrocarbon Solubility: Low  
Net Weight (Imperial): 11 lb, 44 lb  
Net Weight (Metric): 5 kg, 20 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -25 °C  
Pour Point (Fahrenheit): -13 °F  
Product Series: FC-70  
Purity Grade: Standard  
Volume (Imperial): 0.75 gal, 3 gal, 4 fl oz  
Volume (Metric): 3.41 L, 11.36 L, 118.294 mL

## Dimensions and Classifications

Overall Height (Imperial): 14.3 in  
Overall Height (Metric): 36.32 cm  
Overall Length (Imperial): 11.3 in  
Overall Length (Metric): 28.7 cm  
Overall Width (Imperial): 11.3 in  
Overall Width (Metric): 287.02 mm

# **3M™ Locator Plate Riser Block, 3458**

3M ID B10406715

## **Typical properties**

Tech Sheet Number: FA-0019

# **3M™ Mini Delta Ribbon (MDR) Connectors Dust Cover 3412-102XX**

3M ID B00037036 UPC 04901690075322

## **Details**

For more information refer to Data Sheet TS0399 (TS-0399)

## **Typical properties**

Compatible Connector Style: Plug Style (Male), Receptacle (Female)

Compatible Number of Contacts: 14 , 20 , 26 , 36 , 40 , 50 , 68

Connector Style: Receptacle

Factory ISO Certification: No ISO Certification information available

For Use With: MDR Connectors

Material: Plastic

Mounting Type: Boardmount

Number of Contact Rows: 2

Shape: D-type

Tech Sheet Number: TS-0399

eClass 14 Classification Group: 22560314

## **3M™ Insertion Platen, 3442-00XX Series**

3M ID B00036079

### **Typical properties**

Tech Sheet Number: FA-0011



# 3M™ Bumpon™ Protective Products SJ5012

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Notebook Computer Non-Skid Feet, Small Kitchen Appliance Feet -  
Recessed Application  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Brown, Gray, White  
Product Form: Molded  
Product Series: SJ5012  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.500 - 0.599 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.5 in  
Overall Diameter (Metric): 12.7 mm  
Overall Height (Imperial): 0.138 in, 0.14 in  
Overall Height (Metric): 3.5 mm, 3.6 mm  
Overall Length (Imperial): 0.5 in  
Overall Length (Metric): 12.7 mm  
Overall Width (Imperial): 0.14 in  
Overall Width (Metric): 3.6 mm

## 3M™ Pin Strip Header, 961 Series

3M ID B00046734

### Details

High temperature dielectric  
“No lead” wave and reflow solder compatible  
End stackable feature  
Single- and dual row version  
Mates with boardmount and wiremount products  
See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical co

### Typical properties

Application: Board-to-board Connecting, Wire-to-board Connecting  
Contact Base Material: Copper Alloy  
Contact Termination Area Plating Material: Matte Tin  
Contact Termination Area Plating Thickness (Imperial): 40 µin - 118 µin  
Contact Termination Area Plating Thickness (Metric): 1 µm - 3 µm  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin - 100 µin  
Contact Underplating Thickness (Metric): 1.25 µm - 2.5 µm  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Black  
Insulation Material: High Temperature Thermoplastic  
Insulation Resistance:  $>5 \times 10^8 \Omega @ 100 \text{ VDC}$   
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -25 °C  
Minimum Operating Temperature (Fahrenheit): -13 °F  
Moisture Sensitivity Level: 1 (Per J-STD-020C)  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-2182  
eClass 14 Classification Group: 27460201

## **3M™ Discrete Wire Block, 3445**

3M ID 7010396052 UPC 50054007330269

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: FA-0018

# 3M™ Fluorinert™ Electronic Liquid FC-3284

## Details

Thermal stability  
Chemical stability  
Wide liquid range  
Non-conductive  
Narrow boiling range  
Compatibility

## Typical properties

Application: Heat Transfer, Semiconductor Cooling  
Boiling Point (Celsius): 50 °C  
Boiling Point (Fahrenheit): 122 °F  
Boiling Point Range: 50 °C - 99 °C  
Compatibility: Metal, Plastic  
Density: 1.71 g/cm<sup>3</sup>  
Dielectric Strength Range: >40 kV  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: Very High  
GWP (IPCC 2007): >5000 (100 yr ITH)  
GWP Range: High  
Hydrocarbon Solubility: Low  
Net Weight (Imperial): 13.25 lb, 44 lb, 750 lb  
Net Weight (Metric): 6 kg, 20 kg, 341 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -73 °C  
Pour Point (Fahrenheit): -99 °F  
Product Series: FC-3284  
Purity Grade: Standard  
Volume (Imperial): 1 gal, 3.25 gal, 55 gal  
Volume (Metric): 3.79 L, 12.303 L, 208.2 L

## Dimensions and Classifications

Overall Height (Imperial): 13.5 in  
Overall Height (Metric): 34.29 cm  
Overall Length (Imperial): 6 in  
Overall Length (Metric): 15.24 cm  
Overall Width (Imperial): 6 in  
Overall Width (Metric): 152.4 mm

# **3M™ MetPak™ Shroud, CP2 Series**

3M ID B10407030

## **Details**

For more information refer to Data Sheet TS2044 (TS-2044)

## **Typical properties**

Tech Sheet Number: TS-2044

eClass 14 Classification Group: 27460201

## **3M™ Performance Fluid PF-5056**

### **Details**

Thermal stability  
Chemical stability  
Wide liquid range  
Non-conductive

### **Typical properties**

Application: Heat Transfer  
Boiling Point (Celsius): 56 °C  
Boiling Point (Fahrenheit): 132.8 °F  
Factory ISO Certification: No ISO Certification information available  
Max Use Temp Range: <250 Degree C  
Net Weight (Imperial): 14 lb, 70 lb, 750 lb  
Net Weight (Metric): 32 kg, 35 kg, 295 kg, 340 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -73 °C  
Pour Point (Fahrenheit): -99 °F  
Volume (Imperial): 1 gal, 5 gal, 55 gal  
Volume (Metric): 4.546 L, 18.93 L, 250.035 L

### **Dimensions and Classifications**

Overall Height (Imperial): 13.5 in  
Overall Height (Metric): 34.29 cm  
Overall Length (Imperial): 11.44 in  
Overall Length (Metric): 29.06 cm  
Overall Width (Imperial): 11.44 in  
Overall Width (Metric): 290.576 mm

## **3M™ Mini Delta Ribbon (MDR) Junction Shell 103XX-5XXX**

3M ID B5005121011 UPC 04901690089510

### **Details**

Design features durable two-piece glass reinforced polyester backshell with ground strap (compatible with 101XX-3000VE plug)

Round straight exit

Reliable metal strain relief clamp provides grounding for cable shield

Quick release metal latching mechanism

### **Typical properties**

Compatible Cable Shape: Round

Compatible Number of Contacts: 20 , 26 , 36 , 40 , 50

Connector Style: Plug

Factory ISO Certification: No ISO Certification information available

For Use With: MDR Connectors

Mounting Type: Wiremount

Number of Cable Entries: 1

Number of Contact Rows: 2

Product Color: Black

Product Type: Junction Shell

Shell Material: Glass Filled Polyester (PBT)

Tech Sheet Number: TS-0670

eClass 14 Classification Group: 27440213



# 3M™ Wetordry™ Polishing Paper Sheet 481Q

## Details

- Use wet or dry
- Precision micron coated grading for a uniform, consistent finish
- Shortens hand sanding and buffing time
- Reduces finishing steps and saves time
- Color-coded micron grading for easy selection

## Typical properties

- Abrasive Material: Silicon Carbide
- Application: Finishing, Grinding, Refining, Repairing, Shaping
- Attachment Type: Plain Back
- Backing Thickness (Imperial): 9.5 mil
- Backing Thickness (Metric): 0.241 mm
- Factory ISO Certification: No ISO Certification information available
- Micron Grade: 15 µm, 30 µm
- Product Form: Sheet
- Product Series: 481Q
- Product Usage: CDs/DVDs, Jewelry, PC
- Substrate: ABS, Fiberglass, Metal, PMMA, Plastic, Polyurethane, Precious Metal, Solid Surface Composite

## Dimensions and Classifications

- Overall Length (Imperial): 9 in, 11 in
- Overall Length (Metric): 228.6 mm, 279.4 mm
- Overall Width (Imperial): 2.75 in, 8.5 in
- Overall Width (Metric): 69.85 mm, 215.9 mm

# 3M™ Lapping Film Disc 061X

3M ID B5005288034

## Details

- Produces excellent surface finish
- Reduces overall process time
- Produces high yields
- Non-slurry processing

# 3M™ Electrically Conductive Double-Sided Tape 9722S Series

3M ID B5005035077

## Details

Conductive acrylic pressure sensitive adhesive (PSA) with high adhesion  
Good electrical conductivity through the thickness (Z-axis) and adhesive plane (X, Y planes)  
Good EMI shielding in bond line gap  
Excellent conformability and quick bonding  
Improve

## Typical properties

Adhesive Type: Acrylic  
Application: Grounding  
Backing (Carrier) Material: Woven Fabric  
Electrical Resistance: XY-axis 0.1  $\Omega$ , Z-axis 0.01  $\Omega$   
Liner Material: PET  
Maximum Operating Temperature (Celsius): 121 °C  
Maximum Operating Temperature (Fahrenheit): 250 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Product Color: Gray  
Product Usage: Bond Line Gaps  
Shelf Life: 12 Month

# **3M™ Lapping Film 468X, 9.0 Micron PSA Sheet, 8.50 in x 11 in, 50/Inner, 200/Case**

3M ID 7100029216 UPC 00051111498804

## **Details**

Tight particle distribution  
Consistent cut rate, finish and life

## **Typical properties**

Abrasive Material: Silicon Carbide  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 9 µm  
Product Form: Sheet

## **Dimensions and Classifications**

Overall Length (Imperial): 11 in  
Overall Length (Metric): 279.4 mm  
Overall Width (Imperial): 8.5 in  
Overall Width (Metric): 215.9 mm

# **3M™ Diamond Lapping Film Disc 631X**

3M ID B5005288031

## **Details**

- Fast cut
- Increased throughput
- Flatter surface, no rounding
- Uniform finish
- Long abrasive life minimizes abrasive changes
- Available in rolls and sheets

## **3M™ Lapping Film Roll 863XW**

3M ID B5005288030

### **Details**

High Yield, increased throughput  
Consistent protrusion values  
Low insertion loss and back reflection  
Available in discs, sheets and rolls

# **3M™ Unsupported Conductive Adhesive Transfer Tape 97057**

## **Details**

Designed to be laminated to conductive substrates  
2 mil conductive acrylic adhesive on a paper liner  
70 lb. moisture stable poly coated kraft paper liner (Venture 1692)

## **Typical properties**

Brands: 3M™  
Smallest Saleable Unit: Roll

## **Dimensions and Classifications**

Overall Length (Imperial): 36 yd  
Overall Length (Metric): 32.91 m  
Overall Width (Imperial): 0.5 in, 12 in, 54 in  
Overall Width (Metric): 12.7 mm, 304.8 mm, 1371.6 mm



## **3M™ Ionic Liquid Antistat FC-5000**

3M ID B10195172

### **Details**

Good solubility in various polymers - optical clarity  
Stable to high temperature processing - excellent thermal stability, essentially no vapor pressure, outgassing, flammability or VOC concerns  
Excellent antistatic performance over a wide humidity rang

### **Typical properties**

Product Type: Liquid Antistat  
eClass 14 Classification Group: 27059090

## **3M™ Flat Cable Retainer, 3547**

3M ID B10406664

### **Typical properties**

Tech Sheet Number: FA-0020

eClass 14 Classification Group: 27440292

# 3M™ Bumpon™ Protective Products SJ5009

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Heavier Appliances/Electronic Device Feet - Anti-Skid  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.400 - 0.499 in  
Height-Thickness Range (Metric): 10.0 - 19.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Gray, White  
Product Form: Molded  
Product Series: SJ5009  
Product Type: Bumper  
Shape: Cylindrical with Concave Top  
Width-Diameter Range: 0.800 - 0.899 in  
Width-Diameter Range (Metric): 20.0 - 29.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.88 in  
Overall Diameter (Metric): 22.4 mm  
Overall Height (Imperial): 0.4 in, 0.402 in  
Overall Height (Metric): 10.2 mm  
Overall Length (Imperial): 0.88 in  
Overall Length (Metric): 22.4 mm  
Overall Width (Imperial): 0.4 in  
Overall Width (Metric): 10.2 mm

## **3M™ DIP Knife Edge Test Clips**

3M ID B00035163 UPC 00051138242565

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: FB-0013

# 3M™ Bumpon™ Protective Products SJ5739 Black, 2000/Case

3M ID 7000125994 UPC 00021200630712

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Windshield Spacers  
Availability: Make to Order  
Backing Material: Polyurethane  
Base Width: 0.350 in  
Base Width (Metric): 8.89 mm  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.300 - 0.399 in  
Height-Thickness Range (Metric): 7.0 - 7.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ5739  
Product Type: Bumper  
Shape: Rectangular with Tapered Flat Top  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.312 in  
Overall Height (Metric): 7.9 mm  
Overall Length (Imperial): 0.35 in  
Overall Length (Metric): 8.89 mm  
Overall Width (Imperial): 0.31 in  
Overall Width (Metric): 7.87 mm

# **3M™ MetPak™ Shroud, CP2 Series**

3M ID B00036523

## **Details**

For more information refer to Data Sheet TS2043 (TS-2043)

## **Typical properties**

Tech Sheet Number: TS-2043

eClass 14 Classification Group: 27460201

# 3M™ Fluorinert™ Electronic Liquid FC-72

## Details

- Thermal stability
- Chemical stability
- Wide liquid range
- Non-conductive
- Narrow boiling range
- Compatibility

## Typical properties

Application: Dielectric Bath, Electronic Testing, Heat Transfer, Power Electronic Cooling

Boiling Point (Celsius): 56 °C

Boiling Point (Fahrenheit): 133 °F

Boiling Point Range: 50 °C - 99 °C

Compatibility: Metal, Plastic

Density: 1.68 g/cm<sup>3</sup>

Dielectric Strength Range: >35 kV, >40 kV

Factory ISO Certification: No ISO Certification information available

Fluorocarbon Solubility: Very High

GWP (IPCC 2007): >5000 (100 yr ITH)

GWP Range: High

Hydrocarbon Solubility: Low

Net Weight (Imperial): 14 lb, 44 lb

Net Weight (Metric): 6.35 kg, 20 kg

Plastic Elastomer Compatibility: Excellent

Pour Point (Celsius): -90 °C

Pour Point (Fahrenheit): -130 °F

Product Series: FC-72

Purity Grade: Standard

Volume (Imperial): 1 gal, 3.25 gal

Volume (Metric): 3.79 L, 12.3 L

## Dimensions and Classifications

Overall Height (Imperial): 8.86 in

Overall Height (Metric): 22.5 cm

Overall Length (Imperial): 6.81 in

Overall Length (Metric): 17.3 cm

Overall Width (Imperial): 6.81 in

Overall Width (Metric): 172.974 mm



# **3M™ Strain Relief for 3M™ D Ribbon Wiremount Socket, Molded Shell, 3000 Series**

3M ID B00039275

## **Details**

- Accepts 26-28 AWG wire
- Accepts .050 inch round, flat or jacketed cable
- Low profile
- Flexible design offers various mounting applications
- Contact design efficiency enables multiple insertion/withdrawals
- Optional bail mount kit available
- RoHS compliant

## **Typical properties**

- Tech Sheet Number: TS-0820
- eClass 14 Classification Group: 27440392

# 3M™ Performance Fluid PF-5052, 340 kg (750 lb), 1 Drum

Part Number PF-5052 3M ID 7000117283 UPC 00051135715659

## Details

Thermal stability  
Chemical stability  
Wide liquid range  
Non-conductive

## Typical properties

Application: Deposition Solvent  
Boiling Point (Celsius): 50 °C  
Boiling Point (Fahrenheit): 122 °F  
Boiling Point Range: 0 °C - 50 °C  
Brands: 3M™  
Density: 1.71 g/cm<sup>3</sup>  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: Very High  
GWP (IPCC 2007): >5000 (100 yr ITH)  
GWP Range: High  
Hydrocarbon Solubility: Low  
Net Weight (Imperial): 750 lb  
Net Weight (Metric): 340.19 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -73 °C  
Pour Point (Fahrenheit): -99 °F  
Product Series: PF-5052  
Purity Grade: Standard  
Replacement For: CFC-113  
Volume (Imperial): 55 gal  
Volume (Metric): 250.035 L

## 3M™ Mini Delta Ribbon (MDR) 102XX-52XX 102 Series

3M ID B5005277006 UPC 04547452260607

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Glass Filled Polyester (PBT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 8 µin  
Mating Contact Finish Thickness (Metric): 0.2 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 14 , 20 , 26 , 36 , 50 , 68 , 80 , 100  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Boardmount, Electronic Devices  
Shell Material: Steel  
Shell Plating: Nickel  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Termination Method: Solder  
eClass 14 Classification Group: 27440307

# 3M™ Diamond Lapping Film Disc 661XU

## Details

Most widely used diamond lapping film  
Fast cut, increased throughput  
Flatter surface and sharp edges  
Uniform finish  
Available in discs, sheets and rolls

## Typical properties

Abrasive Material: Diamond  
Application: Flat Lapping, Polishing, Superfinishing  
Attachment Type: Plain Back  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 0.5  $\mu\text{m}$ , 1  $\mu\text{m}$   
Polishing Process: Step 2b: Refine/Level Connector (Ceramic Connector)  
Product Form: Disc  
Product Series: 661XU  
Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors  
Substrate: Carbide, Ceramic, Composite, Exotic Alloy, Hardened Metal

## Dimensions and Classifications

Overall Diameter (Imperial): 5 in  
Overall Diameter (Metric): 127 mm

# **3M™ Diamond Lapping Film Roll 631X**

3M ID B5005288023

## **Details**

- Fast cut
- Increased throughput
- Flatter surface, no rounding
- Uniform finish
- Long abrasive life minimizes abrasive changes
- Available in rolls and sheets

# **3M™ Lapping Film Disc 468XY**

3M ID B5005288035

## **Details**

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

# 3M™ Electrically Conductive Double-Sided Tape 9701

## Details

- XYZ-conductivity through the adhesive
- Excellent conformability and quick bonding
- Good EMI shielding in bond line gap
- Thicker construction to conform to non-flat surfaces
- Improved electrical contact to small size areas
- Good handling and workability

O

## Typical properties

- Adhesion Strength (Imperial): 1000 gf/in
- Adhesive Type: Acrylic
- Application: Grounding, Passive Intermodulation (PIM) Management
- Backing (Carrier) Material: Non-woven
- Electrical Resistance: XY-axis 0.2  $\Omega$ , Z-axis 0.05-0.08  $\Omega$
- Factory ISO Certification: No ISO Certification information available
- Liner Material: PET
- Maximum Operating Temperature (Celsius): 121 °C
- Maximum Operating Temperature (Fahrenheit): 250 °F
- Minimum Operating Temperature (Celsius): -40 °C
- Minimum Operating Temperature (Fahrenheit): -40 °F
- Product Color: Gray
- Product Usage: Bond Line Gaps, Flexible Printed Circuits, Sensors
- Shelf Life: 9 Month
- Total Tape Thickness without Liner (Imperial): 2 mil, 4 mil
- Total Tape Thickness without Liner (Metric): 0.05 mm, 0.1 mm

## Dimensions and Classifications

- Overall Length (Imperial): 10.936 yd, 109.361 yd
- Overall Length (Metric): 10 m, 100 m
- Overall Width (Imperial): 0.984 in, 11.811 in, 19.685 in
- Overall Width (Metric): 25 mm, 300 mm, 500 mm

# 3M™ Bumpon™ Protective Products SJ6118 Gray with R25 Adhesive, 3000/Case

3M ID 7010334505 UPC 00051115256899

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Special wider base shape designed for recesses, resists shear and vibration  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Base Width: 0.500 in  
Base Width (Metric): 12.7 mm  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 5.0 - 5.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Gray  
Product Form: Molded  
Product Series: SJ6118  
Product Type: Bumper  
Shape: Square-Tapered w/ Flat Top  
Width-Diameter Range: 0.500 - 0.599 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.23 in  
Overall Height (Metric): 5.8 mm  
Overall Length (Imperial): 0.5 in  
Overall Length (Metric): 12.7 mm  
Overall Width (Imperial): 0.23 in  
Overall Width (Metric): 5.84 mm



# **3M™ Lapping Film 061X, 0.50 Micron Sheet, 8.50 in x 11 in, 50/Inner, 200/Case**

3M ID 7000118249 UPC 00051144140527

## **Details**

- Produces excellent surface finish
- Reduces overall process time
- Produces high yields
- Non-slurry processing

## **Typical properties**

- Abrasive Material: Chromium Oxide
- Application: Final Finishing, Lapping
- Attachment Type: Plain Back
- Brands: 3M™
- Factory ISO Certification: No ISO Certification information available
- Micron Grade: 0.05 µm
- Product Form: Sheet
- Product Series: 061X
- Product Usage: Magnetic Heads
- Substrate: Ceramic, Exotic Alloy

## **Dimensions and Classifications**

- Overall Length (Imperial): 11 in
- Overall Length (Metric): 279.4 mm
- Overall Width (Imperial): 8.5 in
- Overall Width (Metric): 215.9 mm

# **3M™ Lapping Film Roll 468X**

3M ID B5005288029

## **Details**

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

# **3M™ Lapping Film Sheet 468XY**

3M ID B5005288020

## **Details**

Tight particle distribution  
Consistent cut rate, finish and life

## **3M™ Intra-Connector**

3M ID B00026213 UPC 00054007745389

### **Typical properties**

Factory ISO Certification: No ISO Certification information available

Number of Contacts: 20 , 26 , 34 , 40 , 50

Tech Sheet Number: FB-0007

## **3M™ Solderless Breadboards, 300 Series**

3M ID B00034980 UPC 00051138277857

### **Typical properties**

Cover Frame: Yes

Factory ISO Certification: No ISO Certification information available

Jumper Wires Included: Yes

Product Type: Breadboard

Tech Sheet Number: FB-0005

### **Dimensions and Classifications**

Overall Length (Imperial): 7 in, 7.75 in, 8 in, 10.25 in, 12.44 in, 14.69 in

Overall Length (Metric): 137.16 mm, 177.8 mm, 196.9 mm, 203.2 mm, 260.4 mm, 316 mm, 373.1 mm

Overall Width (Imperial): 4 in, 6.25 in, 9.25 in, 9.75 in

Overall Width (Metric): 101.6 mm, 158.8 mm, 235 mm, 247.7 mm

# **3M™ DIP Logical Connection Cable Assemblies**

3M ID B00035064

## **Typical properties**

Tech Sheet Number: FB-0011

# **3M™ Plug Knockout Tools**

3M ID B00046121

## **Typical properties**

Tech Sheet Number: FA-0005

## **3M™ CHG Connector Tools**

3M ID B10509554 UPC 00054007617556

### **Details**

The 1100B features an Electronic Program Unit which adjusts the terminator for connector size and is programmable for the connector wiring pattern

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: FA-0003



# **3M™ Dual Socket Breadboard Systems**

3M ID B00035002

## **Typical properties**

Tech Sheet Number: FB-0003

# **3M™ Open End Logical Connection Cable Assemblies**

3M ID B00035063

## **Typical properties**

Tech Sheet Number: FB-0012

# **3M™ DIP Long Wire Cable Assembly Compatible Test Clips**

3M ID B00035157 UPC 00054007822110

## **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: FB-0014

# **3M™ Diamond Lapping Film 661XU, 0.50 Micron Sheet, 6 in x 6 in, 25/Inner, 250/Case**

3M ID 7010325506 UPC 00051111615584

## **Details**

Most widely used diamond lapping film  
Fast cut, increased throughput  
Flatter surface and sharp edges  
Uniform finish

## **Typical properties**

Abrasive Material: Diamond  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 0.5 µm  
Product Form: Sheet

## **Dimensions and Classifications**

Overall Length (Imperial): 6 in  
Overall Length (Metric): 152.4 mm  
Overall Width (Imperial): 6 in  
Overall Width (Metric): 152.4 mm

# 3M™ Diamond Lapping Film Roll 668X

3M ID B5005288027

## Details

- PSA-backed
- Most widely used diamond lapping film
- Fast cut, increased throughput
- Flat surfaces and low edge rounding
- Uniform finish
- Long abrasive life minimizes abrasive changes
- Available in rolls, discs and sheets

## Typical properties

- Abrasive Material: Diamond
- Attachment Type: PSA Back
- Backing Material: Polyester Film
- Backing Thickness (Imperial): 3 mil
- Backing Thickness (Metric): 0.076 mm
- Product Form: Roll
- Product Series: 668X

## **3M™ Performance Fluid PF-5060**

### **Details**

Thermal stability  
Chemical stability  
Wide liquid range  
Non-conductive

### **Typical properties**

Application: Deposition Solvent, Heat Transfer, Lubricant Deposition  
Boiling Point (Celsius): 56 °C  
Boiling Point (Fahrenheit): 132 °F  
Density (Imperial): 104.879 lb/ft<sup>3</sup>  
Density (Metric): 1.68 g/cm<sup>3</sup>  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: Very High  
GWP (IPCC 2007): >5000 (100 yr ITH)  
GWP Range: High  
Hydrocarbon Solubility: Low  
Maximum Use Temperature (Celsius): 250 °C  
Maximum Use Temperature (Fahrenheit): 482 °F  
Net Weight (Imperial): 14 lb, 44 lb, 750 lb  
Net Weight (Metric): 6.35 kg, 20 kg, 340 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -90 °C  
Pour Point (Fahrenheit): -130 °F  
Product Series: PF-5060  
Product Usage: Deposition Solvent, Foam Blowing Additive  
Volume (Imperial): 1 gal, 3.5 gal, 55 gal  
Volume (Metric): 3.79 L, 13.249 L, 208.2 L  
eClass 14 Classification Group: 23060490

# 3M™ Bumpon™ Protective Products SJ5780 Black, 2600/Case

3M ID 7000051862 UPC 00021200841965

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 5.0 - 5.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ5780  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.700 - 0.799 in  
Width-Diameter Range (Metric): 20.0 - 29.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.787 in  
Overall Diameter (Metric): 20 mm  
Overall Height (Imperial): 0.197 in  
Overall Height (Metric): 5 mm

# 3M™ Bumpon™ Protective Products SJ5001 Black, 3000/Case

3M ID 7000051816 UPC 00021200673948

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Cushioning Spacer, Cushioning Stop, Protective Non-Skid Feet, Surface Protection  
Availability: Stocked  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ5001  
Product Type: Bumper  
Shape: Cylindrical with Concave Top  
Width-Diameter Range: 0.500 - 0.599 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.5 in  
Overall Diameter (Metric): 12.7 mm  
Overall Height (Imperial): 0.14 in  
Overall Height (Metric): 3.6 mm  
Overall Length (Imperial): 0.5 in  
Overall Length (Metric): 12.7 mm  
Overall Width (Imperial): 0.145 in  
Overall Width (Metric): 3.6 mm



# 3M™ Bumpon™ Protective Products SJ5027

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Dampen Noise/Reduce Vibration  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.300 - 0.399 in  
Height-Thickness Range (Metric): 7.0 - 7.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Gray, White  
Product Form: Molded  
Product Series: SJ5027  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.600 - 0.699 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.63 in  
Overall Diameter (Metric): 16 mm  
Overall Height (Imperial): 0.311 in, 0.312 in  
Overall Height (Metric): 7.9 mm  
Overall Length (Imperial): 0.63 in  
Overall Length (Metric): 16 mm  
Overall Width (Imperial): 0.312 in  
Overall Width (Metric): 7.9 mm

# **3M™ Bumpon™ Resilient Rollstock SJ5208 Light Brown, 4.5 in x 36 yds, 1/Case**

3M ID 7010314762 UPC 00021200425844

## **Details**

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## **Typical properties**

Adhesive Type: Synthetic Rubber (R25)  
Application: Cushioning Spacer, Cushioning Stop, Gasketing, Protective Non-Skid Feet, Surface Protection  
Availability: Make to Order  
Backing Material: Polyurethane Foam  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 36 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Light Brown  
Product Form: Rollstock  
Product Series: SJ5208  
Product Type: Rollstock  
Roll Width (Imperial): 4.5 in  
Roll Width (Metric): 114 mm  
Shape: Rollstock  
Width-Diameter Range: 4.00 - 4.99 in  
Width-Diameter Range (Metric): 100.0 - 199.9 mm  
eClass 14 Classification Group: 23330803

## **Dimensions and Classifications**

Overall Length (Imperial): 36 yd  
Overall Length (Metric): 32.91 m  
Overall Thickness (Imperial): 0.125 in  
Overall Thickness (Metric): 3.2 mm  
Overall Width (Imperial): 4.5 in  
Overall Width (Metric): 11.43 cm

**3M™ Twin Axial Cable, SL8802 / 24-BYEN5-00, 31AWG, 12 Pair, 85 ohm, Low Loss, 500 ft**

3M ID 7100201535 UPC 00051111905357

**Typical properties**

Brands: 3M™  
Conductor Material: Copper  
Factory ISO Certification: No ISO Certification information available  
Impedance: 85  $\Omega$   
Insulation Color: Silver  
Insulation Material: Polyolefin  
Number of Conductors: 24  
Number of Pairs: 12  
Pitch (Imperial): 0.093 in  
Pitch (Metric): 2.37 mm  
Product Series: SL8802  
Tech Sheet Number: TS-3554  
Wire Size: 31 AWG  
eClass 14 Classification Group: 19051003

**Dimensions and Classifications**

Overall Length (Imperial): 500 ft  
Overall Length (Metric): 152.4 m

# **3M™ Lapping Film Roll 061X**

3M ID B5005288028

## **Details**

- Produces excellent surface finish
- Reduces overall process time
- Produces high yields
- Non-slurry processing

# **3M™ Diamond Lapping Film Sheet 631X**

3M ID B5005288013

## **Details**

- Fast cut
- Increased throughput
- Flatter surface, no rounding
- Uniform finish
- Long abrasive life minimizes abrasive changes

# **3M™ Single Row Socket Breadboard Systems**

3M ID B10398105

## **Typical properties**

Tech Sheet Number: FB-0004

# **3M™ Diamond Lapping Film Roll 661XU**

3M ID B5005288026

## **Details**

Most widely used diamond lapping film  
Fast cut, increased throughput  
Flatter surface and sharp edges  
Uniform finish  
Available in discs, sheets and rolls

# **3M™ Breadboard Plug & Solder Strip Systems, 3397 Series**

3M ID B00034994

## **Typical properties**

Tech Sheet Number: FB-0001



## **3M™ DIP Thru-Hole Nail Head Test Clips**

3M ID B00035146 UPC 00054007822233

### **Details**

Available in both nail head and headless leads to accommodate a wide range of applications  
Feature heavy duty helical compression spring to provide firm and positive contact pressure  
Insulating contact comb to help prevent accidental shorts  
Wiping action

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: FB-0015

## **3M™ Super-Strip 2 Breadboard, Alloy, (923252-I), 10 Each/Case**

3M ID 7000058029 UPC 00054007746683

### **Typical properties**

Cover Frame: No

Factory ISO Certification: No ISO Certification information available

Product Type: Breadboard Strip

Tech Sheet Number: FB-0002

### **Dimensions and Classifications**

Overall Length (Imperial): 6.5 in

Overall Length (Metric): 165.1 mm

Overall Width (Imperial): 2.25 in

Overall Width (Metric): 57.15 mm

# 3M™ Bumpon™ Protective Products SJ5018

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Dampen Noise/Reduce Vibration  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Base Width: 0.500 in  
Base Width (Metric): 12.7 mm  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 5.0 - 5.9 mm  
Pack Size: 3000/case  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Gray, White  
Product Form: Molded  
Product Series: SJ5018  
Product Type: Bumper  
Shape: Square-Tapered w/ Flat Top  
Width-Diameter Range: 0.500 - 0.599 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.228 in  
Overall Height (Metric): 5.8 mm  
Overall Length (Imperial): 0.5 in  
Overall Length (Metric): 12.7 mm  
Overall Width (Imperial): 0.5 in  
Overall Width (Metric): 12.7 mm

## **3M™ Bumpon™ Protective Products SJ5077 Black, 2000/Case**

3M ID 7100149030 UPC 00021200238666

### **Details**

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

### **Typical properties**

Adhesive Type: Natural Rubber (R30)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 4.0 - 4.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ5077  
Product Type: Bumper  
Shape: Hexagonal-Flat Circular Top  
Width-Diameter Range: 0.600 - 0.699 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

### **Dimensions and Classifications**

Overall Diameter (Imperial): 0.65 in  
Overall Diameter (Metric): 16.5 mm  
Overall Height (Imperial): 0.16 in  
Overall Height (Metric): 4.1 mm  
Overall Length (Imperial): 0.65 in  
Overall Length (Metric): 16.51 mm  
Overall Width (Imperial): 0.16 in  
Overall Width (Metric): 4.06 mm

## **3M™ Cable Accessory, 3617 Series**

3M ID B00027474 UPC 00051111526750

### **Details**

PVC insulation provides excellent protection for external wiring applications  
Polyester leader for easy pull-through of cable, expanded copper shield for flexibility and easy termination  
20 db average shielding effectiveness  
For more information, refer

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Jacket: Yes  
Jacket Material: PVC  
Product Type: Shielding Sleeve  
Roll Length: 100 Linear Foot  
Shield: Yes  
Splice Free: No  
Tech Sheet Number: TS-0061  
eClass 14 Classification Group: 15090300

## **3M™ MetPak™ 2-FB Shroud, MP2 Series**

3M ID B10406820

### **Details**

Ideal for backplane plug-up/feed-through applications  
Available in three stand-off heights  
For more information, refer to Data Sheet TS1130 (TS-1130)

### **Typical properties**

Tech Sheet Number: TS-1130  
eClass 14 Classification Group: 27460201

# **3M™ Power Connectors for CompactPCI™ Applications, Male**

3M ID B10420628

## **Details**

Designed to meet CompactPCI power interface specification PICMG 2.11 for Zone 1 connector  
Combines power and signal – 20 DC power contacts, 3 AC power contacts and 24 signal contacts  
Eurocard form factors  
Provides redundant power and system management

## **Typical properties**

Tech Sheet Number: TS-2375  
eClass 14 Classification Group: 27460201

# **3M™ Mini Serial Attached SCSI (miniSAS) Cable Assembly, 8M26 Series**

3M ID B00035550

## **Details**

- Capable of 6 Gbps per channel data rate
- 26 conductor signal assembly
- Multiple lengths available
- Metal latch designed to promote retention
- Pull tab ring provides easier unmating
- Two levels of EMLB for hot plugging
- Multiple key options available
- Test

## **Typical properties**

- Product Series: 8M26
- Tech Sheet Number: TS-2212
- eClass 14 Classification Group: 19051003



## **3M™ Mini Delta Ribbon (MDR) Cable Assembly, 4926-01XX**

3M ID B00035679 UPC 00051138597184

### **Details**

.050" MDR differential signal transmission interconnect  
Flexible twisted pair round cable with overall braid/foil shield  
Ribbon-type contact for reliable repetitive plugging/unplugging  
Quick release latches  
RoHS compliant  
For more information refer t

### **Typical properties**

Cable Length (Imperial): 3.281 ft, 6.562 ft, 9.843 ft, 16.404 ft, 26.247 ft  
Cable Length (Metric): 1 m, 2 m, 3 m, 5 m, 8 m  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Jacket Material: PVC  
Number of Positions: 26  
Shell Material: ABC  
Specifications Met: AWM VW-1  
Tech Sheet Number: TS-0758  
eClass 14 Classification Group: 27060304

# **3M™ Strain Relief for IDC Ribbon Cable Socket, D89 Series, D3448-89124, 500/case**

3M ID 7100251760 UPC 08887862429772

## **Details**

- Preassembled, packaging on swords for easy loading of manual and semi-automatic assembly equipment
- Bulk packaging option for maximum economy
- Bumps are designed to prevent premature latch locking during shipment
- Optional double-sided adhesive pull tab f

## **Typical properties**

- Brands: 3M™
- Factory ISO Certification: No ISO Certification information available
- Tech Sheet Number: TS-2243
- eClass 14 Classification Group: 27440392

## **3M™ Specialty DIP, 3498 Series, 3498-0000**

3M ID 7010395982 UPC 50054007305175

### **Details**

Plugs directly into board, saving cost and space of IC socket  
Permits fast, convenient insertion and withdrawal  
Optional strain relief  
Low profile  
See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: TS-0021  
eClass 14 Classification Group: 27261708

# **3M™ Serial Attached SCSI (SAS) Connector, SBR-ST-22-M-XX, SBR Series**

3M ID B00036247

## **Details**

6 Gbps input/output connector for backplane applications  
Two contact mating levels for early-mate and late-break allows "blind mating" or "hot swap" applications  
Capable of accepting HDD fitted with SAS or Serial Advanced Technology Attachment (SATA) He

## **Typical properties**

Tech Sheet Number: TS-2205  
eClass 14 Classification Group: 27440307

# 3M™ Power Right Angle Male Connector for ATCA™ Applications, 2P01-0200-ES

3M ID 7010500436 UPC 00051115584343

## Details

ATCA™ Zone 1 power connector  
Backplane right angle header  
Daughtercard vertical socket  
Compliant to PICMG 3.0 R2.0 (AdvancedTCA™) specification  
High conductivity, precision formed contacts  
Selective plating in compliance with RoHS requirements  
Preci

## Typical properties

Brands: 3M™  
Connector Style: Pin Header  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Guide Pin  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Mounting Type: Boardmount  
Number of Contacts: 34  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Packaged Form: Tray  
Product Series: 2P01  
Tech Sheet Number: TS-2376  
Termination Method: Press Fit  
eClass 14 Classification Group: 27460201

## 3M™ Mini-Clamp Plug, 371 Series

3M Product Number 371 Series 3M ID B00036754 UPC 04547452396269

### Details

Easy, quick and reliable termination using standard pliers  
Accommodates typical wiring specifications for industrial sensors, switches and LEDs  
No special wire preparation required, reducing maintenance work  
Higher connection reliability  
Semi-transparent

### Typical properties

Application: Wire Branching, Wire-to-board Connecting, Wire-to-wire Connecting  
Connection Type: IDC  
Connector Style: Plug  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Thermoplastic  
Maximum Conductor Size (Imperial): 20 AWG, 24 AWG, 26 AWG  
Maximum Conductor Size (Metric): 0.14 mm<sup>2</sup>, 0.3 mm<sup>2</sup>, 0.5 mm<sup>2</sup>  
Minimum Conductor Size (Imperial): 22 AWG, 26 AWG, 28 AWG  
Minimum Conductor Size (Metric): 0.08 mm<sup>2</sup>, 0.14 mm<sup>2</sup>, 0.3 mm<sup>2</sup>  
Mounting Type: Wiremount  
Number of Contact Rows: 1 , 2  
Number of Contacts: 3 , 4 , 6 , 8  
Pitch (Imperial): 0.08 in  
Pitch (Metric): 2 mm  
Product Color: Black, Blue, Gray, Green, Orange, Purple, Red, Yellow  
Specifications Met: China RoHS, RoHS 2011/65/EU  
Tech Sheet Number: TS-2092  
Termination Method: IDC  
eClass 14 Classification Group: 27460202

## **3M™ Mini Delta Ribbon (MDR), 101XX-3000PX, 101 Series**

3M ID B00036873 UPC 04547452554393

### **Details**

Wiper-on-wiper contact for reliable repetitive plugging  
Solder cup termination requires no special tooling  
Accepts a wide variety of discrete wire (24 to 30 AWG) cable construction  
Contacts: 14, 20, 26, 36, 40 and 50  
See Regulatory Information Appendix

### **Typical properties**

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Plug  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin  
Contact Underplating Thickness (Metric): 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Glass Reinforced Polyester (PCT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin, 20 µin  
Mating Contact Finish Thickness (Metric): 0.5 µm, 0.76 µm  
Maximum Conductor Size (Imperial): 24 AWG  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Conductor Size (Imperial): 30 AWG  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Wiremount  
Number of Contact Rows: 2  
Number of Contacts: 14 , 20 , 26 , 36 , 40 , 50  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Electronic Devices, Wiremount  
Shell Material: Steel  
Shell Plating: Nickel  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0669  
Termination Method: Solder Cup  
eClass 14 Classification Group: 27440307

## 3M™ Mini Delta Ribbon (MDR), 101XX-X2X2XC, 101 Series

3M ID B00036911 UPC 04547452514786

### Details

Wiper-on-wiper contact for reliable repetitive plugging  
Rugged die cast metal case construction  
Screw or ground lock PCB retention  
Normal and reverse "D" interface options for board to board flexibility  
IEEE 1284C Interface as a 36 contact connector

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Plug  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin, 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm, 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: PCB Retention  
Insulation Material: Glass Filled Polyester (PBT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin, 8 µin  
Mating Contact Finish Thickness (Metric): 0.2 µm, 0.76 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 20 , 26 , 36 , 50  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Boardmount, Electronic Devices  
Shell Material: Steel  
Shell Plating: Nickel  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0620  
Termination Method: Solder  
eClass 14 Classification Group: 27440307



## 3M™ D Sub Plug, 8200 Series

3M Product Number 8200 Series 3M ID B00036994 UPC 00638060825143

### Details

Durable dual-row connectors for reliable connections that protect against EMI/ESD

Available in both open- and closed-end covers for design flexibility

Dimpled design provides enhanced EMI/ESD protection

Improved metal strain relief hooks ensure secure

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating

Connector Style: Plug

Contact Base Material: Copper Alloy

Contact Underplating Material: Nickel

Contact Underplating Thickness (Imperial):  $\geq 50$   $\mu\text{in}$

Contact Underplating Thickness (Metric):  $\geq 2$   $\mu\text{m}$

Current Rating: 1.0 A

Factory ISO Certification: No ISO Certification information available

Features: PCB Retention

Insulation Material: Glass Filled Polyester (PBT)

Markings: 3M Logo & Contact Position Numbers

Mating Contact Finish Material: Gold

Mating Contact Finish Thickness (Imperial): 30  $\mu\text{in}$

Mating Contact Finish Thickness (Metric): 0.76  $\mu\text{m}$

Maximum Conductor Size (Imperial): 26 AWG (Solid & Stranded)

Maximum Operating Temperature (Celsius): 105 °C

Maximum Operating Temperature (Fahrenheit): 221 °F

Minimum Conductor Size (Imperial): 28 AWG (Solid & Stranded)

Minimum Operating Temperature (Celsius): -55 °C

Minimum Operating Temperature (Fahrenheit): -67 °F

Mounting Type: Wiremount

Number of Contact Rows: 2

Number of Contacts: 9 , 15 , 25 , 37 , 50

Pitch (Imperial): 0.109 in

Pitch (Metric): 2.76 mm

Product Usage: Electronic Devices, Wiremount

Shell Material: Steel

Shell Plating: Tin

Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0

Tech Sheet Number: TS-0234

Termination Method: IDC

eClass 14 Classification Group: 27440307

## **3M™ Mini Delta Ribbon (MDR) Junction Shell 103XX-12R1-00**

3M ID B00037045 UPC 00051138446314

### **Details**

Rugged two piece metal junction shell for straight flat cable (compatible with 101XX-6000 EC plug)  
Jackscrew latching for connection stability  
Contacts: 68, 80 and 100  
RoHS compliant  
For more information refer to Data Sheet TS0666 (TS-0666)

### **Typical properties**

Compatible Cable Shape: Flat  
Compatible Number of Contacts: 68 , 80 , 100  
Factory ISO Certification: No ISO Certification information available  
For Use With: MDR Connectors  
Number of Cable Entries: 1  
Product Color: Silver  
Product Type: Junction Shell  
Tech Sheet Number: TS-0666  
eClass 14 Classification Group: 27440213

### **Dimensions and Classifications**

Overall Thickness (Imperial): 0.03 in

## **3M™ D Sub EMI Junction Shell, Shielded Flat Cable**

3M ID B00037097 UPC 00054007363187

### **Details**

Stainless steel inserts in plastic shell provide EMI/ ESD protection for shielded flat cable

Uses standard hardware

Light weight, compact size

Low profile

Full family of sizes

See Regulatory Information Appendix (last page of Tech Data Sheet) for che

### **Typical properties**

Compatible Cable Shape: Round

Compatible Number of Contacts: 9 , 15 , 25 , 37

Factory ISO Certification: No ISO Certification information available

For Use With: D Sub Connectors

Number of Cable Entries: 1

Product Color: Silver

Product Type: Junction Shell

Tech Sheet Number: TS-0031

eClass 14 Classification Group: 27440213

# 3M™ Wiremount Socket, 1522 Series, 152244-0100GG

3M Product Number 1522 Series 3M ID 7000058092

## Details

Excellent for low profile wire-to-board connections  
Preassembled covers allow efficient termination  
Optional strain relief and centerbump polarity  
Meets UL 94V-0 specifications

## Typical properties

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin - 150 µin  
Contact Underplating Thickness (Metric): 1.27 µm - 3.81 µm  
Current Rating: 1.25 A  
Factory ISO Certification: No ISO Certification information available  
Features: Feed Through, Polarizing Key, Strain Relief  
Insulation Color: Gray  
Insulation Material: Glass Filled Polyester (PBT)  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$   
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Maximum Conductor Size (Imperial): 28 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Conductor Size (Imperial): 28 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 44  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Product Series: 1522  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0523  
Termination Method: IDC  
Withstanding Voltage: 500 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

## **3M™ Link Connector, 381 Series**

3M ID B00038861 UPC 04547452227532

### **Details**

Single-action IDC termination connector for T-branching and splicing of sensor and field networks  
Easy, labor saving and reliable IDC termination  
Easy field termination with no special wire preparation – no stripping, tinning or special tooling  
Compati

### **Typical properties**

Application: Wire Branching, Wire-to-board Connecting, Wire-to-wire Connecting  
Connection Type: IDC  
Connector Style: Plug  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Thermoplastic  
Maximum Conductor Size (Imperial): 18 AWG, 20 AWG, 22 AWG  
Maximum Conductor Size (Metric): 0.3 mm<sup>2</sup>, 0.5 mm<sup>2</sup>, 0.75 mm<sup>2</sup>  
Minimum Conductor Size (Imperial): 18 AWG, 20 AWG, 22 AWG  
Minimum Conductor Size (Metric): 0.3 mm<sup>2</sup>, 0.5 mm<sup>2</sup>, 0.75 mm<sup>2</sup>  
Mounting Type: Wiremount  
Number of Contact Rows: 1  
Number of Contacts: 2 , 4  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Product Color: Black, Gray, Green, Light Blue, Orange, Pink, White, Yellow  
Specifications Met: China RoHS, RoHS 2011/65/EU  
Tech Sheet Number: TS-2098  
Termination Method: IDC  
eClass 14 Classification Group: 27460202

## **3M™ Round Shielded/Jacketed Discrete Wire Cable 3750 Series**

3M Product Number 3750 Series 3M ID B00039360 UPC 00051138440466

### **Details**

Excellent for balanced drive applications  
26 AWG wire carries higher power levels in I/O harness  
Twisted pairs help reduce crosstalk  
Dual shielding provides 35 db average shielding effectiveness  
Wires are color-coded for easy identification  
Meets

### **Typical properties**

Application: Crosstalk Reduction, EMI Interference Protection, High-speed Data Transmission, Impedance Control, Noise Immunity, RFI Interference Protection  
Factory ISO Certification: No ISO Certification information available  
Features: Chemical Resistance  
Insulation Color: Multi-color  
Insulation Material: PVC  
Number of Conductors: 10 , 16 , 26 , 38 , 50 , 60  
Number of Pairs: 5 , 8 , 13 , 19 , 25  
Number of Strands: 7  
Product Usage: Balanced Drive Mechanisms, Box-to-box, Cameras, Computers, Control Modules, Controllers, IDC Connectors, Robotics Motors, Sensors  
Specifications Met: RoHS 2011/65/EU  
Tech Sheet Number: TS-0072  
Wire Size: 26 AWG  
eClass 14 Classification Group: 27061801

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft, 300 ft, 500 ft, 600 ft, 1000 ft  
Overall Length (Metric): 30.48 m, 91.44 m, 152.4 m, 182.88 m, 304.8 m

## **3M™ High Flex Life Cable, HF319 Series**

3M Product Number HF319 Series 3M ID B00039597 UPC 00076308095154

### **Details**

Halogen-free insulation  
Stranded wire for flexibility and easy installation  
.050 in. diameter for compatibility with various applications  
Size 28 AWG wire for optimal performance in low-voltage applications  
High-quality construction for durability and

### **Typical properties**

Application: High-flexibility Connecting  
Factory ISO Certification: No ISO Certification information available  
Features: Halogen-free  
Insulation Color: Gray  
Insulation Material: Halogen Free Polyolefin  
Number of Conductors: 6 , 10 , 14 , 16 , 20 , 24 , 25 , 26 , 30 , 34 , 40 , 50 , 64  
Number of Strands: 19  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Specifications Met: RoHS 2011/65/EU  
Tech Sheet Number: TS-2342  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft  
Overall Length (Metric): 30.48 m

## **3M™ Pleated Foil Shielded Cable, 90201 Series**

3M ID B00039658 UPC 00051111727034

### **Details**

Can be used with IDC mass termination connectors

Can be used in applications requiring standard impedance of 100  $\Omega$  balanced (differential)

Perfect for board-to-board applications within electronic equipment, TPE covering prevents pleated copper foil from

### **Typical properties**

Application: Signal Integrity

Cable Type: Shielded

Factory ISO Certification: No ISO Certification information available

Insulation Color: Multi-color

Insulation Material: TPE

Jacket Color: Gray

Jacket Material: TPE

Number of Conductors: 20 , 26 , 36 , 40 , 50 , 60 , 68 , 80 , 100

Number of Strands: 1

Pitch (Imperial): 0.025 in

Pitch (Metric): 0.635 mm

Tech Sheet Number: TS-0402

Wire Size: 30 AWG

eClass 14 Classification Group: 27060106



## **3M™ Pleated Foil Shielded Cable, 90101 Series**

3M ID B00039686 UPC 00051111526866

### **Details**

Compatible with IDC mass termination connectors  
Functions with applications requiring standard impedance of 100  $\Omega$  balanced (differential)  
Solid pleated copper foil provides flexibility and 35 db average shielding effectiveness  
CL2 rated, rugged design

### **Typical properties**

Application: Signal Integrity  
Cable Type: Shielded  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Translucent White  
Insulation Material: TPE  
Jacket Color: Gray  
Jacket Material: PVC  
Number of Conductors: 26 , 36 , 40 , 50 , 68 , 80 , 100  
Number of Strands: 1  
Pitch (Imperial): 0.025 in  
Pitch (Metric): 0.635 mm  
Tech Sheet Number: TS-0285  
Wire Size: 30 AWG  
eClass 14 Classification Group: 27060106

# 3M™ Fluorinert™ Electronic Liquid FC-3283

## Details

- Thermal stability
- Chemical stability
- Wide operating temperature range
- Non-conductive
- Narrow boiling range
- Compatibility

## Typical properties

- Application: Heat Transfer, Semiconductor Cooling
- Boiling Point (Celsius): 128 °C
- Boiling Point (Fahrenheit): 262 °F
- Boiling Point Range: 100 °C - 149 °C
- Compatibility: Metal, Plastic
- Density: 1.82 g/cm<sup>3</sup>
- Dielectric Strength Range: >40 kV
- Factory ISO Certification: No ISO Certification information available
- Fluorocarbon Solubility: Very High
- GWP (IPCC 2007): >5000 (100 yr ITH)
- GWP Range: High
- Hydrocarbon Solubility: Low
- Maximum Use Temperature (Celsius): 128 °C
- Maximum Use Temperature (Fahrenheit): 262.4 °F
- Net Weight (Imperial): 0.43 lb, 11 lb, 44 lb, 750 lb
- Net Weight (Metric): 0.195 kg, 5 kg, 20 kg, 340 kg
- Plastic Elastomer Compatibility: Excellent
- Pour Point (Celsius): -65 °C
- Pour Point (Fahrenheit): -85 °F
- Product Series: FC-3283
- Purity Grade: Standard
- Volume (Imperial): 0.75 gal, 3.25 gal, 4 fl oz, 55 gal
- Volume (Metric): 2.839 L, 12.303 L, 118.29 mL, 208 L

## Dimensions and Classifications

- Overall Height (Imperial): 6.6 in, 9.49 in, 14.33 in
- Overall Height (Metric): 16.76 cm, 24.1 cm, 36.4 cm
- Overall Length (Imperial): 4.2 in, 7.52 in, 11.22 in
- Overall Length (Metric): 10.67 cm, 19.1 cm, 28.5 cm
- Overall Width (Imperial): 4.2 in, 7.64 in, 11.22 in
- Overall Width (Metric): 106.68 mm, 194.056 mm, 284.988 mm

## 3M™ Pak 50 Socket, P50L Series

3M Product Number P50L Series 3M ID B00044976 UPC 00051111740323

### Details

Low profile (7-8 mm) mating heights are ideal for SMT board stacking  
High temperature insulator allows IR and wave soldering  
Solder brackets help increase connector solder joint stability  
Polarized alignment posts help ensure correct mating  
Series inc

### Typical properties

Application: Board-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Receptacle  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Board Guide, Solder Retention  
Insulation Color: Brown  
Insulation Material: Glass Filled PPS  
Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 500 VDC  
Mating Option: None  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 40 , 50 , 60 , 100  
PCB Mounting Style: Surface Mount  
Process Temperature Rating: 260 °C (Per J-STD-020C)  
Product Series: P50L  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-2055  
eClass 14 Classification Group: 27460201

# **3M™ Board Stacking Connector System, P05N-XXXST-A-G Series**

3M ID B10454891

## **Details**

0.5 mm pitch connector system ideal for applications with limited space

Mated height of 3 mm

Bellows type contact reduces mating stress and insures reliability

Tactile click action assures complete mating and assures high resistance to vibration and sh

## **Typical properties**

Application: Board-to-board Connecting

Tech Sheet Number: TS-1093

eClass 14 Classification Group: 27460201

## **3M™ Shielded Compact Ribbon Connectors 36110-3000 FD, Silver, 100 ea/Case**

3M Product Number 361 Series 3M ID 7000007484 UPC 04547452216796

### **Details**

Enables mid-span and extension applications when used with a 3M™ Shielded Compact Ribbon (SCR) Wiremount Receptacle  
Polarized to provide proper cable insertion  
Robust ribbon-style contact for reliable, repetitive plugging  
360-degree shielding for excel

### **Typical properties**

Brands: 3M™  
Connector Style: Plug  
Contact Base Material: Copper Alloy  
Factory ISO Certification: No ISO Certification information available  
Mounting Type: Wiremount  
Number of Contact Rows: 2  
Number of Contacts: 10  
Product Color: Silver  
Tech Sheet Number: TS-2225  
eClass 14 Classification Group: 27460201

# **3M™ Ultra Hard Metric (UHM) Press-Fit Socket, UHM Series**

3M ID B00046516

## **Details**

- 7+ Gbps data rates when mated to standard IEC 61076-4-101 headers
- Low crosstalk at high frequencies
- 50/100  $\Omega$  (single-ended/differential) impedance
- Modular/scalable format IEC 61076-4-101
- Press-fit headers and receptacles
- 101 mated lines per linear in

## **Typical properties**

- Tech Sheet Number: TS-2326
- eClass 14 Classification Group: 27460201

## 3M™ CF Card Headers N7E50-F516 PK-30, Beige, 100 ea/Case

3M ID 7000090349 UPC 04547452492749

### Details

Headers mate with CompactFlash™ Type I cards  
4.0 mm Low Profile height  
Inverse card polarization  
Extended guide rails enable accurate and easy card insertion  
Single row surface mount solder tails facilitate auto placement and IR soldering  
Meets CFA s

### Typical properties

Brands: 3M™  
Card Standard: CompactFlash®  
Card Type: Type I  
Connector Style: Receptacle  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Card Guide  
Insertion/Removal Method: Push-in/Pull-out  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): <10 µin  
Mating Contact Finish Thickness (Metric): <0.25 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 0  
Number of Contacts: 50  
Packaged Form: Tray  
Product Color: Beige  
Product Series: N7E50  
Stack Height (Imperial): 0.157 in  
Stack Height (Metric): 3.988 mm  
Tech Sheet Number: TS-0765  
Withstanding Voltage: 500 VAC for 1 min  
eClass 14 Classification Group: 27440211

## 3M™ Pak 50 Low Profile Plug, P50L Series

3M Product Number P50L Series 3M ID B00046682 UPC 00051111740514

### Details

Low profile (7-12 mm) is excellent for SMT board stacking applications  
High temperature insulator allows for IR and wave soldering  
Guide posts make for easy mating/unmating  
Retention clips help stabilize connector to the board during wave soldering  
Av

### Typical properties

Application: Board-to-board Connecting  
Connector Style: Plug  
Factory ISO Certification: No ISO Certification information available  
Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 500 VDC  
Mating Option: None  
Number of Contact Rows: 0 , 2  
Number of Contacts: 20 , 30 , 40 , 80 , 100  
PCB Mounting Style: Surface Mount  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Process Temperature Rating: 260 °C (Per J-STD-020C)  
Tech Sheet Number: TS-2053  
eClass 14 Classification Group: 27460201



# 3M™ Through-Board Socket, 953 Series

3M ID B00046738

## Details

- Optimizes use of PC board space
- High temperature dielectric
- No lead wave and reflow solder compatible
- Dual row design, 4–80 pins
- Minimized PC Board stacking heights
- Mates with pin-strip header products
- See Regulatory Information Appendix (last page)

## Typical properties

Application: Board-to-board Connecting, Wire-to-board Connecting  
Tech Sheet Number: TS-2162  
eClass 14 Classification Group: 27460201

# **3M™ Power Right Angle Header Module for Hard Metric (HM) Applications, Hm-Pwr-Hdr Series, HM-PWR-HDR-02-LR**

3M ID 7000049942 UPC 00051115587818

## **Details**

Press-fit power connectors with right angle male and vertical female  
Three power contacts with 8 amps per contact rating  
Three different contact lengths for early mate late break (EMLB) applications  
Designed to be used with 3M™ CP2, HM and HSHM Connect

## **Typical properties**

Brands: 3M™  
Connector Style: Pin Header  
Factory ISO Certification: No ISO Certification information available  
Mounting Type: Boardmount  
Number of Contact Rows: 1  
Number of Contacts: 3  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Tech Sheet Number: TS-2381  
eClass 14 Classification Group: 27460201

# 3M™ Thermally Conductive Adhesive Transfer Tape 9885

## Details

- High mechanical strength
- Improved surface wet-out for rough surface
- Excellent shock performance
- Wider and longer roll is available
- Halogen free
- Ideal for thin bonding applications
- Good thermal transfer
- Best adhesion results when used with high surf

## Typical properties

- Adhesive Type: Acrylic
- Factory ISO Certification: No ISO Certification information available
- Total Tape Thickness without Liner (Imperial): 5 mil
- Total Tape Thickness without Liner (Metric): 0.13 mm

## Dimensions and Classifications

- Overall Length (Imperial): 36 yd
- Overall Length (Metric): 32.92 m
- Overall Width (Imperial): 0.75 in, 1 in
- Overall Width (Metric): 19.05 mm, 25.4 mm

## 3M™ Three-Wall Condo Header, 3000 Series

3M Product Number 3000 Series 3M ID B30000152 UPC 08887862427334

### Details

Stacked pins conserve space on the circuit board allowing higher-density packaging  
Pin quantity to 128 gives design flexibility with latching  
HDI alternative  
Three-wall fits in VME board stacking criteria  
Accepts standard IDC sockets  
Mates with stand

### Typical properties

Application  
Wire-to-board Connecting  
Connector Shape  
Rectangular  
Connector Style  
Stacked Header  
Contact Base Material  
Copper Alloy  
Current Rating  
1.0 A  
Factory ISO Certification  
No ISO Certification information available  
Features  
Mounting Flange  
Insulation Color  
Black  
Insulation Height (Imperial)  
0.59 in  
Insulation Height (Metric)  
15 mm  
Insulation Material  
Glass Filled Polyester (PBT) or High Temperature (PCT)  
Latch/Ejector Type  
Latch Lock/Eject Hooks (Long), Latch Lock/Eject Hooks (Short)  
Mating Contact Finish Material  
Gold  
Mating Option  
Board to Board, Board to Cable, Board to Wire  
Maximum Operating Temperature (Celsius)  
105 °C  
Maximum Operating Temperature (Fahrenheit)  
221 °F  
Minimum Operating Temperature (Celsius)  
-55 °C  
Minimum Operating Temperature (Fahrenheit)  
-67 °F

Number of Contact Rows  
2  
Number of Contacts  
40 , 52 , 68 , 80 , 100 , 120  
PCB Mounting Angle  
Right Angle  
PCB Mounting Style  
Through Hole  
Pitch (Imperial)  
0.079 in  
Pitch (Metric)  
0.1 mm  
Post Contact Finish Material  
Matte Tin  
Product Series  
3000  
Shroud Style  
3 Wall  
Specifications Met  
UL 94V-0  
Tech Sheet Number  
TS-0773  
Voltage Rating  
1000 Vrms at Sea Level  
eClass 14 Classification Group  
27460201

## **3M™ Shielded/Jacketed, Flat Cable, HF017 Series, HF017/25**

3M Product Number HF017 Series 3M ID 7000057332 UPC 00051111945247

### **Details**

Low Smoke Zero Halogen (LSZH) insulation helps reduce smoke and combustion gas toxicity in case of fire  
28 AWG stranded wire on .050 inch centers permits mass termination to broad range of IDC connectors  
360 degree expanded copper shielding helps reduce

### **Typical properties**

Application  
Mass Termination  
Brands  
3M™  
Factory ISO Certification  
No ISO Certification information available  
Halogen Free  
Yes  
Insulation Color  
Gray  
Insulation Material  
Polyolefin  
Jacket Color  
Gray  
Jacket Material  
Polyolefin  
Number of Conductors  
25  
Number of Strands  
7  
Pitch (Imperial)  
0.025 in  
Pitch (Metric)  
0.64 mm  
Specifications Met  
VW-1  
Tech Sheet Number  
TS-2345  
Wire Size  
28 AWG  
eClass 14 Classification Group  
27060106

## 3M™ DIN C-Form Socket, DIN 41612 Series

3M ID B10098179 UPC 00051119942101

### Details

Multi-pin count socket compatible with VME, Multibus II, and VXI back panels  
Expanded pin counts  
Optional press-fit or solder tail termination  
Mates with C-form and R-form plugs  
Optional retention clip  
For more information, refer to Data Sheet TS2306

### Typical properties

Connector Style  
Receptacle  
Contact Base Material  
Copper Alloy  
Contact Resistance  
<= 20 MilliOhms  
Factory ISO Certification  
No ISO Certification information available  
Flammability  
UL 94V-0  
Insulation Flammability Rating  
UL 94V-0  
Insulation Material  
Glass Filled Polyester (PBT)  
Mounting Type  
Boardmount  
Number of Contact Rows  
3  
Number of Contacts  
48 , 96  
Physical Plating Property  
50 micrometers Min. Nickel  
Pitch (Imperial)  
0.1 in  
Pitch (Metric)  
2.54 mm  
Process Temperature Rating  
Maximum Insulator Temperature 191 Degrees C (solder wave process only)  
Tech Sheet Number  
TS-2670  
Temperature Rating  
-55 Degree C to 125 Degree C  
Termination Area  
See Ordering Information  
Wiping Area (Plating)  
See Ordering Information  
Withstanding Voltage

1000 VAC for 1 minute  
eClass 14 Classification Group  
27460201



# **3M™ Thermally Conductive Tape 9882, 1 in x 36 yds x 2.0 mil, 9/Case, Bulk**

3M ID 7100037321 UPC 00021200243493

## **Details**

- High mechanical strength
- Improved surface wet-out for rough surface
- Excellent shock performance
- Wider and longer roll is available
- Halogen free
- Ideal for thin bonding applications
- Good thermal transfer
- Best adhesion results when used with high surf

## **Typical properties**

- Adhesive Type
  - Acrylic
- Brands
  - 3M™
- Factory ISO Certification
  - No ISO Certification information available
- Total Tape Thickness without Liner (Imperial)
  - 2 mil
- Total Tape Thickness without Liner (Metric)
  - 0.05 mm

## **Dimensions and Classifications**

- Overall Length (Imperial)
  - 36 yd
- Overall Length (Metric)
  - 32.92 m
- Overall Width (Imperial)
  - 1 in
- Overall Width (Metric)
  - 25.4 mm

# **3M™ Round Conductor Flat Cable for Link Connector 79100-075-4F1, 200 m, Black/Red/White/Green, 1 ea/Case**

3M ID 7010402339 UPC 04548623208701

## **Details**

Designed for factory automation applications  
Recommended for use with 3M™ Link Connectors  
19 AWG [0.75 mm<sup>2</sup>] on 0.100" [2.54 mm] centers permits IDC termination  
RoHS Compliant. See the Regulatory Information Appendix (RIA) in the "RoHS compliance" section

## **Typical properties**

Application  
Mass Termination  
Brands  
3M™  
Factory ISO Certification  
No ISO Certification information available  
Jacket Material  
PVC  
Number of Conductors  
4  
Number of Strands  
30  
Pitch (Imperial)  
0.1 in  
Pitch (Metric)  
2.54 mm  
Tech Sheet Number  
TS-2323  
Wire Size  
19 AWG  
eClass 14 Classification Group  
27060106

# 3M™ MetPak™ 2-FB Inverse Header, MP2 Series

3M ID B10406873

## Details

16 mm to 18.5 mm high-profile stacking

Pin counts up to 300

Footprint compatible with standard Futurebus+®

Ideal for hot swapping applications

End-to-end stackable

Mates with MP2-R Series for parallel stacking applications

See Regulatory Information

## Typical properties

Tech Sheet Number

TS-1123

eClass 14 Classification Group

27460201

## **3M™ Boardmount Socket, 929 Series**

3M ID B10419776

### **Details**

1-36 contacts

Tuning fork contact design

Low profile permits board stacking as close as .150"

Solder stand-offs facilitate production wave soldering

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information

### **Typical properties**

Application

Board-to-board Connecting

Tech Sheet Number

TS-0211

eClass 14 Classification Group

27460201

# 3M™ Round Conductor Round Cable for CC-Link, 79100 Series

3M ID B10398559

## Details

Designed for factory automation applications  
Conforms to CC-Link Ver 1.10  
Recommended for use with 3M™ Power Clamp Plug and socket connectors  
0.50 mm<sup>2</sup> [20 AWG] conductor wire permits IDC termination  
High flex cable  
RoHS Compliant. See Regulatory Info

## Typical properties

Halogen Free  
No  
Insulation Color  
Multi-color  
Jacket Material  
PVC  
Number of Conductors  
3  
Tech Sheet Number  
TS-2324  
Wire Size  
20 AWG  
eClass 14 Classification Group  
27061801

## **3M™ HDC Shroud, HDC Series**

3M ID B10406871

### **Details**

Pinless shroud for double-sided backplane interconnects  
Presses over feed-through tails of three and four row backplane headers and four-row vertical sockets  
Single and dual-bay insulator styles  
See Regulatory Information Appendix (last page of Tech Da

### **Typical properties**

Tech Sheet Number  
TS-1140  
eClass 14 Classification Group  
27460201

## **3M™ Textool™ Laser Diode Sockets**

3M ID B00035253 UPC 04901690066634

### **Details**

Compact miniature socket size for maximum board density  
Accommodates most any TO package format with pin circle options of .079" (2.0 mm) or .100" (2.54 mm), including popular laser diode devices  
3 and 4 lead options available  
Funneled entry holes to assist

### **Typical properties**

Factory ISO Certification  
No ISO Certification information available  
Frame Style  
Laser Diode, ZIP Socket  
Number of Positions  
3 , 4 , 10 , 20 , 24 , 32 , 36  
PCB Mounting Style  
Through Hole  
Tech Sheet Number  
TS-0406  
eClass 14 Classification Group  
27261708

# 3M™ Novec™ Electronic Degreaser, 340 g (12 oz), 6 Canisters/Case

3M ID 7100067835 UPC 00051138992675

## Details

- Fast drying, no residue
- Non-flammable
- Low odor
- Low toxicity
- Non-corrosive
- Contains no HCFCs, HFCs, or nPB
- Non-ozone depleting
- Compliant with OTC VOC regulations

## Typical properties

- Application
  - Aerosol Cleaning, Cleaning, Removing Heavy Oils/Greases, Removing Silicones
- Brands
  - Novec™
- Cleaning Performance (Fluorinated Oils)
  - Excellent
- Cleaning Performance (Heavy Oils & Greases)
  - Excellent
- Cleaning Performance (Hydraulic Fluid)
  - Excellent
- Cleaning Performance (Lead-free Flux)
  - Excellent
- Cleaning Performance (Light Oils)
  - Excellent
- Cleaning Performance (No-clean Flux)
  - Very Good
- Cleaning Performance (Particulate)
  - Excellent
- Cleaning Performance (Rosin-based Flux)
  - Very Good
- Cleaning Strength
  - Heavy Duty
- Factory ISO Certification
  - No ISO Certification information available
- Volume (Imperial)
  - 12 fl oz
- Volume (Metric)
  - 354.882 mL
- eClass 14 Classification Group
  - 23060490



## 3M™ Novec™ Flux Remover, 340 g (12 oz), 6 Canisters/Case

3M ID 7100067836 UPC 00051138992699

### Details

Fast drying, no residue  
Non-flammable  
Low odor  
Low toxicity  
Non-corrosive  
Contains no HCFCs, HFCs, or nPB  
Non-ozone depleting

### Typical properties

Application  
Aerosol Cleaning, Cleaning, Removing Fluxes, Removing Heavy Oils/Greases,  
Removing Silicones  
Brands  
Novec™  
Cleaning Performance (Fluorinated Oils)  
Not Recommended  
Cleaning Performance (Heavy Oils & Greases)  
Excellent  
Cleaning Performance (Hydraulic Fluid)  
Excellent  
Cleaning Performance (Lead-free Flux)  
Excellent  
Cleaning Performance (Light Oils)  
Excellent  
Cleaning Performance (No-clean Flux)  
Very Good  
Cleaning Performance (Particulate)  
Excellent  
Cleaning Performance (Rosin-based Flux)  
Excellent  
Cleaning Strength  
Heavy Duty  
Factory ISO Certification  
No ISO Certification information available  
Product Usage  
Flux Remover  
Specifications Met  
OTC VOC (Electrical Cleaner), RoHS 2011/65/EU, RoHS/WEEE  
Volume (Imperial)  
12 fl oz  
Volume (Metric)  
354.882 mL  
eClass 14 Classification Group  
23060490

# 3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14150-EZBB-XXX-0LC

3M ID B00035625 UPC 04519001381743

## Details

Supports LVDS Channel Link™ signaling  
Ideal for high speed switch backplanes  
20 shielded pairs (100 ohm) +6 grounds for high bandwidth applications  
High density 50 position MDR with rugged ribbon type contact  
Quick release latches  
RoHS compliant  
For

## Typical properties

Cable Length (Imperial)  
3.281 ft, 4.921 ft, 9.843 ft, 19.685 in  
Cable Length (Metric)  
0.5 m, 1 m, 1.5 m, 3 m  
Connector Style (End A)  
Plug  
Connector Style (End B)  
Plug  
Connector Type (End A)  
MDR  
Connector Type (End B)  
MDR  
Current Rating  
1.0 A  
Factory ISO Certification  
No ISO Certification information available  
Jacket Material  
PVC  
Number of Positions  
50  
Shell Material  
ABS  
Specifications Met  
AWM VW-1  
Tech Sheet Number  
TS-0959  
eClass 14 Classification Group  
27060304

# 3M™ Mini Serial Attached SCSI (miniSAS) Connector Assembly, Internal Vertical, 8AB36 Series

3M ID B00036241

## Details

6 Gbps aggregate input/output connector for server applications  
Combination receptacle/shell assembly to facilitate board assembly  
Multiple tail types and lengths available on shell guide  
Multiple keying options available  
Meets SFF-8086 Specification

## Typical properties

Current Rating  
0.5 A  
Mounting Type  
Boardmount  
Number of Contact Rows  
2  
Number of Contacts  
36  
Orientation  
Vertical  
Tech Sheet Number  
TS-2207  
eClass 14 Classification Group  
27440307

## **3M™ Card-Edge, XXXX-0001, 3000 Series**

3M ID B00036341

### **Details**

Reinforced card-edge resists mouth bowing for consistent contact performance  
Metal cover clips provide superior cover retention  
Bifurcated contacts provide reliable contact with PC boards  
Keying plug 3439-2 provides polarization and/or keying  
Optional

### **Typical properties**

Tech Sheet Number  
TS-0010  
eClass 14 Classification Group  
27440211

# 3M™ MetPak™ 2-FB Stacking Socket, MP2 Series

3M ID B00036471 UPC 10051115600538

## Details

- End-to-end stackable
- Offset dual-beam contact minimizes insertion force
- High-profile/high pin count
- Ideal for parallel stacking applications
- Vertical receptacle
- Eliminates internal cabling
- Meets IEC 61076-4-104 Futurebus+® global standard
- See Regul

## Typical properties

- Connector Style
- Receptacle
- Contact Base Material
- Phosphor Bronze
- Contact Underplating
- 50 μ" [1.27 μm] Nickel
- Current Rating
- 1.5 A
- Electrical Current Rating
- Signal: 1.5A-All contacts simultaneously
- Factory ISO Certification
- No ISO Certification information available
- Features
- Mating Guide, Spacer, Stackable
- Flammability
- UL 94V-0
- Insulation Color
- Beige
- Insulation Flammability Rating
- UL 94V-0
- Insulation Material
- High Temperature LCP
- Insulation Resistance
- 10<sup>3</sup> MegaOhms
- Mating Contact Finish Material
- Gold
- Mating Contact Finish Thickness (Imperial)
- 3 μin
- Mating Contact Finish Thickness (Metric)
- 0.076 μm
- Moisture Sensitivity Level
- 1 (Per J-STD-020C)
- Mounting Type
- Boardmount
- Number of Contact Rows

4 , 5  
Number of Contacts  
96 , 150 , 180  
Orientation  
Vertical  
PCB Mounting Style  
Through Hole  
Packaged Form  
Bulk  
Pitch (Imperial)  
0.079 in  
Pitch (Metric)  
2 mm  
Process Rating  
260 Degrees C (per J-STD-020C)  
Process Temperature Rating  
260 Degrees C (Profile per J-STD-020C)  
Product Series  
MP2  
Solder Tails  
See Ordering Information  
Tech Sheet Number  
TS-1118  
Temperature Rating  
-55 Degree C to +125 Degree C  
Termination Method  
Press Fit  
UnderPlating Material  
50 micro inches [1.27 micro meter] Nickel  
Wiping Area (Plating)  
See Ordering Information  
Withstanding Voltage  
1000 VAC  
eClass 14 Classification Group  
27460201

## 3M™ HDC Plug, HDC Series

3M ID B00036722 UPC 00051119906639

### Details

High density up to 240 contacts for 3-row  
High density up to 320 contacts for 4-row  
Right angle mounting for vertical and horizontal mating (extender boards)  
Mates with 3-row single-bay sockets  
Mates with 4-row single-bay sockets and 4-row vertical so

### Typical properties

Connector Style  
Plug  
Current Rating  
3.0 A  
Factory ISO Certification  
No ISO Certification information available  
Insulation Color  
Black  
Mating Contact Finish Material  
Gold  
Mating Contact Finish Thickness (Imperial)  
30 µin  
Mating Contact Finish Thickness (Metric)  
0.76 µm  
Mounting Type  
Boardmount  
Number of Contact Rows  
4  
Number of Contacts  
100 , 200  
PCB Mounting Angle  
Right Angle  
PCB Mounting Style  
Through Hole  
Packaged Form  
Bulk  
Pitch (Imperial)  
0.1 in  
Pitch (Metric)  
2.54 mm  
Product Series  
HDC  
Tech Sheet Number  
TS-1139  
Termination Method  
Solder  
Withstanding Voltage  
900 VAC for 1 minute

eClass 14 Classification Group  
27460201



# 3M™ Power Clamp Branch Connector Y-Type 357 Series

3M Product Number 357 Series 3M ID B00036749 UPC 04547452958863

## Details

- Designed with innovative Power Clamp technology
- Connects one socket and two plugs
- Compact and space-saving design
- Provides secure and reliable electrical connections
- Made with high-quality materials for durability
- Easy and quick installation process

## Typical properties

- Application
  - Wire Branching
- Connector Style
  - Plug & Receptacle
- Factory ISO Certification
  - No ISO Certification information available
- Insulation Material
  - Glass Filled Polyester (PBT)
- Number of Contact Rows
  - 3
- Number of Contacts
  - 15
- Pitch (Imperial)
  - 0.12 in
- Pitch (Metric)
  - 3 mm
- Product Color
  - Black
- Specifications Met
  - China RoHS, RoHS 2011/65/EU
- Tech Sheet Number
  - TS-2304
- eClass 14 Classification Group
  - 27460202

# 3M™ Twin Axial PCI Express X4 Extender Assemblies

3M ID B00035489 UPC 00076308101442

## Details

The PCIe x4 paddlecard and edge mount connector assembly adds reach and flexibility to high-speed, high-bandwidth applications  
Allows for replacement of PCB traces with high-performance, low-loss twin axial cable  
Meets PCIe®2.0 and PCIe 3.0 standards  
F

## Typical properties

Application  
High-speed Data Transmission  
Characteristic Impedance  
85 ohms  
Connector Style (End A)  
Edgecard  
Connector Style (End B)  
Receptacle  
Connector Type (End A)  
ST  
Connector Type (End B)  
ST  
Factory ISO Certification  
No ISO Certification information available  
Form Factor  
PCIe® CEM, PCIe® Card Edge  
Number of Cable Assembly Lanes  
x4  
Number of Conductors  
64  
Product Series  
8KJ1  
Product Usage  
Riser Cables  
Protocol  
PCIe®  
Standard Size  
0.25 m,0.5 m  
Tech Sheet Number  
TS-2521  
Wire Gauge (Imperial)  
30 AWG  
eClass 14 Classification Group  
19051003

## Dimensions and Classifications

Overall Length (Imperial)

9.84 in, 19.69 in

Overall Length (Metric)

250 mm, 500 mm

# 3M™ Twin Axial Cable Assemblies for 40G QSFP+ FDR Applications, 9QA0-112-13-2.50

3M ID 7100043603 UPC 00076308625092

## Details

Ideal for added functionality and performance to systems using FDR technology  
Meets SFF-8436 QSFP+ standard  
Delivers aggregate data bandwidth up to 56 Gbps (4 x 14)  
Foldable, flexible cable can be incorporated into various PC and server configurations

## Typical properties

Aggregate Data Rate  
40G  
Application  
Networking  
Brands  
3M™  
Characteristic Impedance  
100 ohms  
Connector Style (End A)  
Plug  
Connector Style (End B)  
Plug  
Connector Type (End A)  
ST  
Connector Type (End B)  
ST  
Factory ISO Certification  
No ISO Certification information available  
Form Factor  
QSFP+  
Number of Cable Assembly Lanes  
x4  
Number of Conductors  
16  
Product Series  
9Q  
Product Usage  
Switch  
Protocol  
Ethernet  
Standard Size  
3.0 m, 2.0 m, 1.0 m  
Tech Sheet Number  
TS-2640  
Wire Gauge (Imperial)  
30 AWG

eClass 14 Classification Group  
19051003

### **Dimensions and Classifications**

Overall Length (Imperial)

98.43 in

Overall Length (Metric)

2.5 m

# **3M™ Mini D Ribbon (MDR) Cable Assembly, 14H26-SZ3X-XXX-04C Series, 14H26-SZ3M-700-04C**

3M ID 7000007589

## **Details**

Flexible cable enables moving head applications  
For machine vision camera to frame grabber communications in applications where full CameraLink™ configuration is not necessary  
Mates to popular 3M MDR 26 position receptacle  
3 shielded quads with drains

## **Typical properties**

Cable Length (Imperial)  
22.966 ft  
Cable Length (Metric)  
7 m  
Current Rating  
1.0 A  
Factory ISO Certification  
No ISO Certification information available  
Jacket Material  
PVC  
Number of Positions  
26  
Overmolded Shell Material  
PVC  
Shell Material  
Polyester Elastomer  
Specifications Met  
AWM VW-1  
Tech Sheet Number  
TS-2259  
Voltage Rating  
30.0 V  
eClass 14 Classification Group  
27060304

# **3M™ Mini Serial Attached SCSI (miniSAS) Connector/Shell, Vertical, 8A36/8B36 Series**

3M ID B00036237

## **Details**

6 Gb/s input/output connector for server applications

Surfacemount termination on receptacle

Multiple tail types available for board assembly on shell guide

Multiple pin lengths for a range of board thicknesses on shell guide

Multiple backshell polari

## **Typical properties**

Tech Sheet Number

TS-2218

eClass 14 Classification Group

27440307

## **3M™ Card-Edge, XXXX-0000, 3000 Series**

3M ID B00036340

### **Details**

Standard drilled mounting flanges  
Reinforced card-edge resists mouth bowing for consistent contact performance  
Metal cover clips provide superior cover retention  
Bifurcated contacts provide reliable contact with PC boards  
Keying plug 3439-2 provides p

### **Typical properties**

Tech Sheet Number  
TS-0012  
eClass 14 Classification Group  
27440211



## **3M™ Eurosocket, 62CXX Series**

3M ID B00036381

### **Details**

- DIN 41612 compatible
- High density (64 & 96 position)
- Mates with DIN 41612 Type C headers
- High reliability contact design
- Can be daisy-chained or end terminated to flat cable
- Optional strain relief with handle
- Individual connector coding with 3435-1

### **Typical properties**

- Tech Sheet Number  
TS-0813
- eClass 14 Classification Group  
27460201

## **3M™ Eurosocket, 62B64 Series**

3M ID B00036414

### **Details**

DIN 41612 compatible  
High density (64 position)  
Mates with DIN 41612 Type B headers  
High reliability contact design  
Can be daisy-chained or end terminated to flat cable  
Optional strain relief with handle  
Available with or without mounting flanges  
S

### **Typical properties**

Tech Sheet Number  
TS-0585  
eClass 14 Classification Group  
27460201

# 3M™ CP2 Press-Fit Socket, CP2 Series, CP2-SAB110-G1-FJ

3M ID 7000005757

## Details

25 mm basic system unit

38, 44 and 50 mm module

Designed according to IEC 61076-4-101 and IEC 60352-5 Standards

2 mm grid spacing allows for high signal density at low cost

“Eye of the Needle” compliant pin press-fit design reduces manufacturing time

## Typical properties

Connector Style

Receptacle

Contact Base Material

Copper Alloy

Contact Resistance

$\leq 20$  MilliOhms

Factory ISO Certification

No ISO Certification information available

Flammability

UL 94V-0

Insulation Material

High Temperature Thermoplastic (LCP)

Insulation Resistance

$\geq 10,000$  MegaOhm

Mating Force

$\leq 0.75$ N/PIN

Mating and Un-mating Operations

50

Mounting Type

Boardmount

Number of Contact Rows

5

Number of Contacts

110

Pitch (Imperial)

0.079 in

Pitch (Metric)

2 mm

Tech Sheet Number

TS-2264

Temperature Rating

-55 Degree C to +125 Degree C

Test Voltage

750 VAC (rms)

Withdrawl Force

$\geq 0.15$ N/PIN

eClass 14 Classification Group

27460201

## 3M™ CP2 Press-Fit Header, CP2 Series

3M ID B00036516 UPC 00051119905786

### Details

25 mm basic system unit

38, 44 and 50 mm module

2 mm grid spacing allows for high signal density at low cost

“Eye of the Needle” compliant pin press-fit design helps reduce manufacturing time and cost

Three contact mating levels for Early Mate Late Br

### Typical properties

Connector Style

Pin Header

Contact Base Material

Copper Alloy

Contact Resistance

$\leq 20$  MilliOhms

Current Rating

1.0 A

Electrical Load

1.0 Ampere at +70 Degree C

Factory ISO Certification

No ISO Certification information available

Flammability

UL 94V-0

Insulation Color

Beige

Insulation Material

Glass Filled Polyester (PBT)

Insulation Resistance

$\geq 10,000$  MegaOhm

Mating Contact Finish Material

Gold

Mating Contact Finish Thickness (Imperial)

30  $\mu$ in

Mating Contact Finish Thickness (Metric)

0.76  $\mu$ m

Mating Force

$\leq 0.75$ N/PIN

Mating and Un-mating Operations

50

Mounting Type

Boardmount

Number of Contact Rows

5 , 7

Number of Contacts

125 , 133 , 154 , 175

PCB Mounting Style

Through Hole  
PCB Thickness  
2.4-5.6 mm  
Packaged Form  
Bulk  
Pitch (Imperial)  
0.079 in  
Pitch (Metric)  
2 mm  
Product Series  
CP2  
Tech Sheet Number  
TS-2267  
Temperature Rating  
-55 Degree C to +125 Degree C  
Termination Method  
Press Fit  
Test Voltage  
750 VAC (rms)  
Withdrawl Force  
>= 0.15N/PIN  
Withstanding Voltage  
750 Vrms  
eClass 14 Classification Group  
27460201

# 3M™ Novec™ 2708 Electronic Grade Coating

## Details

Easy application and processing - dries in seconds without the need for thermal post-curing  
Requires little or no masking  
Allows solder-through repairability and is easily removed for rework & repair  
Contains a low level of volatile organic compounds (

## Typical properties

Application

Anti-stiction, Chemical Protection, Corrosion Protection, Moisture Protection, Protecting

Application Method

Brush, Dip, Selective Dispense, Spray

Brands

Novec™

Coating Location

Electronic Device Components

Coating Thickness Range (Metric)

0.8 µm - 1.3 µm, 500 nm - 1 µm

Dielectric Constant

2.8

Dielectric Strength

2500 V/mil

Dissipation Factor

0.011

Factory ISO Certification

No ISO Certification information available

Net Weight (Imperial)

0.18 lb, 11 lb

Net Weight (Metric)

5 kg, 81 g

Polymer Type

Fluoroacrylate

Product Series

Novec 2708

Removability

Removable with 3M™ Novec™ Engineered Fluid 7100, Removable with 3M™ Novec™ Engineered Fluid 7201, Removable with 3M™ Novec™ Engineered Fluid 72A

Specifications Met

RoHS 2011/65/EU

Thermal Cure Time & Temperature

No Need to Cure

UV Detectable

Yes

Volume (Imperial)

1 gal, 2 fl oz

Volume (Metric)  
3.78 L, 59.147 mL  
eClass 14 Classification Group  
27400113

# 3M™ MetPak™ HM Press-Fit Power Socket, HM Series

3M ID B00036702

## Details

Modular/scalable format IEC 61076-4-101

63 mated lines per linear inch

Dual beam contact construction for high reliability

Four integrated 8.25 A power blades

End-to-end stackable with 5 row 3M™ MetPak™ CP2, HM and HSHM sockets

Mates with 3M™ MetPak™

## Typical properties

Tech Sheet Number

TS-2088

eClass 14 Classification Group

27460201



# 3M™ HDC Header, HDC Series, HDC-S160-41S1-KR

3M ID 7100205584

## Details

High density 3-row version, up to 240 contacts single bay  
Mates with 3-row single plugs and headers  
High density 4-row version, up to 320 contacts single bay  
Mates with 4-row single plugs and headers  
Low 2 oz. insertion force  
See Regulatory Informati

## Typical properties

Connector Style  
Receptacle  
Contact Base Material  
Copper Alloy  
Factory ISO Certification  
No ISO Certification information available  
Flammability  
UL 94V-0  
Insulation Material  
Glass Filled Thermoplastic (LCP)  
Insulation Resistance  
>1x10<sup>3</sup> MΩ @ 500 VDC  
Markings  
Part Number and Date Code  
Moisture Sensitivity Level  
1 (Per J-STD-020C)  
Mounting Type  
Boardmount  
Number of Contact Rows  
4  
Number of Contacts  
160  
Pitch (Imperial)  
0.1 in  
Pitch (Metric)  
2.54 mm  
Process Rating  
Maximum 260 Degree C (per J-STD-020C)  
Tech Sheet Number  
TS-1137  
Temperature Rating: USA  
-55 Degrees C to +125 Degrees C  
Termination Area  
See Ordering Information  
UnderPlating Material  
50 micro inches [1.27 micro meter] Min. Nickel  
Wiping Area (Plating)

See Ordering Information  
Withstanding Voltage  
900 VAC for 1 minute  
eClass 14 Classification Group  
27460201

# 3M™ CP2 Press-Fit Socket, CP2 Series, CP2-SC055-G1-FJ

3M ID 7000005758

## Details

25 mm basic system unit

20 mm module

Designed according to IEC 61076-4-101 and IEC 917 Standards

2 mm grid spacing allows for high signal density at low cost

"Eye of the Needle" compliant pin press-fit design helps reduce manufacturing time and cost

## Typical properties

Connector Style

Receptacle

Factory ISO Certification

No ISO Certification information available

Mounting Type

Boardmount

Number of Contact Rows

5

Number of Contacts

55

Pitch (Imperial)

0.079 in

Pitch (Metric)

2 mm

Tech Sheet Number

TS-2269

eClass 14 Classification Group

27460201

## 3M™ D Sub Plug, 8250 Series, 8250-7005

3M Product Number 8250 Series 3M ID 7100178281

### Details

Insulation-displacement contact (IDC) compatible  
Dimples aid in EMI/ESD protection  
Lower insertion/withdrawal force than other 50-position products  
Available in either open- or closed-end cover  
Mounting options include #4-40 Unified National Coarse (U

### Typical properties

Application  
Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Brands  
3M™  
Connector Style  
Plug  
Contact Base Material  
Copper Alloy  
Contact Underplating Material  
Nickel  
Contact Underplating Thickness (Imperial)  
100 µin  
Contact Underplating Thickness (Metric)  
2.54 µm  
Current Rating  
1.0 A  
Factory ISO Certification  
No ISO Certification information available  
Features  
PCB Retention  
Insulation Material  
Glass Filled Polyester (PBT)  
Markings  
3M Logo & Contact Position Numbers  
Mating Contact Finish Material  
Gold  
Mating Contact Finish Thickness (Imperial)  
30 µin  
Mating Contact Finish Thickness (Metric)  
0.76 µm  
Maximum Conductor Size (Imperial)  
26 AWG (Solid & Stranded)  
Maximum Operating Temperature (Celsius)  
105 °C  
Maximum Operating Temperature (Fahrenheit)  
221 °F  
Minimum Conductor Size (Imperial)

28 AWG (Solid & Stranded)  
Minimum Operating Temperature (Celsius)  
-55 °C  
Minimum Operating Temperature (Fahrenheit)  
-67 °F  
Mounting Type  
Wiremount  
Number of Contact Rows  
3  
Number of Contacts  
50  
Pitch (Imperial)  
0.108 in  
Pitch (Metric)  
2.74 mm  
Product Usage  
Electronic Devices, Wiremount  
Shell Material  
Steel  
Shell Plating  
Nickel  
Specifications Met  
UL 94V-0  
Tech Sheet Number  
TS-0035  
Termination Method  
IDC  
eClass 14 Classification Group  
27440307

# 3M™ Mini Delta Ribbon (MDR), 102XX-M218XE, 102 Series

3M ID B00037035 UPC 04547452443215

## Details

Wiper-on-wiper contact for reliable repetitive plugging  
Rugged die cast metal case construction  
Screw lock down for reliable PCB retention  
Interface latch design for connection stability  
Stacked receptacles save board space  
Contacts: 40 (2 x 20), 100

## Typical properties

Application  
Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style  
Receptacle  
Contact Base Material  
Copper Alloy  
Contact Underplating Material  
Nickel  
Contact Underplating Thickness (Imperial)  
100 µin  
Contact Underplating Thickness (Metric)  
2.54 µm  
Current Rating  
1.0 A  
Factory ISO Certification  
No ISO Certification information available  
Features  
PCB Retention  
Insulation Material  
Glass Filled Polyester (PBT)  
Markings  
3M Logo and Part Number  
Mating Contact Finish Material  
Gold  
Mating Contact Finish Thickness (Imperial)  
20 µin  
Mating Contact Finish Thickness (Metric)  
0.5 µm  
Maximum Operating Temperature (Celsius)  
85 °C  
Maximum Operating Temperature (Fahrenheit)  
185 °F  
Minimum Operating Temperature (Celsius)  
-55 °C  
Minimum Operating Temperature (Fahrenheit)  
-67 °F

Mounting Type  
Boardmount  
Number of Contact Rows  
2  
Number of Contacts  
20 , 40 , 100 , 132 , 200  
PCB Mounting Angle  
Right Angle  
PCB Mounting Style  
Through Hole  
Pitch (Imperial)  
0.05 in  
Pitch (Metric)  
1.27 mm  
Product Usage  
Boardmount, Electronic Devices  
Shell Material  
Steel  
Shell Plating  
Nickel  
Specifications Met  
China RoHS  
Tech Sheet Number  
TS-0671  
Termination Method  
Solder  
eClass 14 Classification Group  
27440307

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 248-5205-00

3M ID 7010395462 UPC 00051115602306

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2471-0

## Typical properties

- Brands
  - Textool™
- Factory ISO Certification
  - No ISO Certification information available
- Tech Sheet Number
  - TS-2471
- eClass 14 Classification Group
  - 27261708



# **3M™ Connector for PC104 Embedded Systems Applications, Bus Compatible, 4P01/4P02 Series**

3M ID B5005035038

## **Details**

3M PC104 Connectors  
Standard PC104 pin-and-socket connectors  
Rugged and reliable 64- and 40-contact male/female headers  
Simple contact design to accommodate many standoff heights  
Available in solder tail  
PC104 Standard Benefits  
Compact form factor a

## **Typical properties**

Tech Sheet Number  
TS-2394  
eClass 14 Classification Group  
27460201

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 232-5205-01

3M ID 7010348026 UPC 00051115602214

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2468-6

## Typical properties

- Brands
  - Textool™
- Factory ISO Certification
  - No ISO Certification information available
- Tech Sheet Number
  - TS-2468
- eClass 14 Classification Group
  - 27261708

# 3M™ Electrically Conductive Double-Sided Tape 9711S

## Details

Isotropic XYZ-axis conductivity through the adhesive  
Excellent conformability and quick bonding  
Good EMI shielding in bond line gap  
Thicker construction conforms to non-flat surfaces  
Improved electrical contact to small-size areas  
Good handling and w

## Typical properties

Adhesion Strength (Imperial)

1300 gf/in, 1500 gf/in, 2000 gf/in

Adhesive Type

Acrylic

Application

Attaching, Electrostatic Discharge (ESD), Grounding, Interconnecting, Passive Intermodulation (PIM) Management

Backing (Carrier) Material

Woven Fabric

Electrical Resistance

XY-axis 0.2  $\Omega$ , Z-axis 0.05-0.1  $\Omega$

Factory ISO Certification

No ISO Certification information available

Liner Material

PET

Maximum Operating Temperature (Celsius)

85 °C

Maximum Operating Temperature (Fahrenheit)

185 °F

Minimum Operating Temperature (Celsius)

-40 °C

Minimum Operating Temperature (Fahrenheit)

-40 °F

Product Color

Gray

Product Usage

Bond Line Gaps, Chassis, EMI Gaskets, Flexible Printed Circuits, Printed Circuit Boards, Sensors

Shelf Life

12 Month

Total Tape Thickness without Liner (Imperial)

2 mil, 4 mil, 8 mil, 9.843 mil

Total Tape Thickness without Liner (Metric)

0.05 mm, 0.1 mm, 0.2 mm, 0.25 mm

## Dimensions and Classifications

Overall Length (Imperial)

10.936 yd, 109.361 yd  
Overall Length (Metric)  
10 m, 100 m  
Overall Width (Imperial)  
0.984 in, 41.732 in  
Overall Width (Metric)  
25 mm, 1060 mm

# 3M™ Diamond Lapping Film 664X, Sheets and Rolls

## Details

- PSA-backed
- Fast cut
- Increased durability
- Flat surface, reduced edge rounding
- Uniform finish
- Long abrasive life minimizes abrasive changes
- Available in rolls, discs and sheets

## Typical properties

- Abrasive Material
- Diamond
- Factory ISO Certification
- No ISO Certification information available
- Micron Grade
- 45 µm
- Product Form
- Sheet
- Product Series
- 664X

## Dimensions and Classifications

- Overall Length (Imperial)
- 6 in, 8 in
- Overall Length (Metric)
- 152.4 mm, 203.2 mm
- Overall Width (Imperial)
- 3 in, 6 in
- Overall Width (Metric)
- 76.2 mm, 152.4 mm

# 3M™ Lapping Film 266X, Sheets and Rolls

## Details

PSA-backed  
Tight particle distribution  
Harder resin system than 261X  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## Typical properties

Abrasive Material  
Aluminum Oxide  
Application  
Buffing, Finishing, Flat Lapping, Grinding, Polishing, Refining, Repairing,  
Shaping, Superfinishing  
Attachment Type  
PSA Back  
Brands  
3M™  
Factory ISO Certification  
No ISO Certification information available  
Micron Grade  
0.3 µm, 12 µm, 3 µm, 30 µm, 9 µm  
Polishing Process  
Step 1: De-Nub/Epoxy Removal  
Product Form  
Roll, Sheet  
Product Series  
266X  
Product Usage  
CDs/DVDs, Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Hard Disc  
Drive Lubers, Jewelry, Media Heads, Optical  
Substrate  
Ceramic, Glass, High-hardness Metal, Metal, Plastic, Precious Metal, Silicon  
Carbide

## Dimensions and Classifications

Overall Length (Imperial)  
11 in  
Overall Length (Metric)  
279.4 mm  
Overall Width (Imperial)  
8.5 in  
Overall Width (Metric)  
215.9 mm

## **3M™ Diamond Pad Conditioner Bar**

### **Details**

Helps to reduce the number of maintenance shutdowns, increasing the potential for lower cost of ownership

Optimized for extended pad and disk life

Diamonds secured with both chemical and mechanical bonds for great retention

### **Typical properties**

Abrasive Material

Nickel-based Alloy with Patterned Diamond

Abrasive Working Surface

Full Face

Application

CMP, Wafer Manufacturing

CMP Process

Cu (Bulk), W (Bulk)

Carrier Form

Bar

Carrier Length (Imperial)

11.63 in

Carrier Length (Metric)

295.402 mm

Carrier Material

316 Stainless Steel

Diamond Size

251 micron

Factory ISO Certification

No ISO Certification information available

Product Series

R400

Product Type

Diamond Pad Conditioner

## 3M™ Pak 50 Power Ground Socket, P50 Series

3M Product Number P50 Series 3M ID B00038706 UPC 00051111738757

### Details

2 amp power/ground contact rating  
EMLB power/ground contacts help control static discharge  
Allows "hot board" replacement  
Available in vertical and right angle configurations

### Typical properties

Application  
Board-to-board Connecting  
Connector Style  
Receptacle  
Contact Base Material  
Phosphor Bronze  
Factory ISO Certification  
No ISO Certification information available  
Insulation Material  
Glass Filled Nylon  
Insulation Resistance  
>1x10<sup>9</sup> Ω @ 500 VDC  
Number of Contact Rows  
2  
Number of Contacts  
20 , 30 , 40 , 68 , 80  
Pitch (Imperial)  
0.079 in  
Pitch (Metric)  
0.05 mm  
Specifications Met  
UL 94V-0  
Tech Sheet Number  
TS-2052  
eClass 14 Classification Group  
27460201



## **3M™ Medium Flex Life Cable, Halogen-Free, HF539 Series**

3M Product Number HF539 Series 3M ID B00039631 UPC 00076308610012

### **Details**

Durable to withstand repeated bending and twisting without losing its performance  
Stranded design helps enhance flexibility and allows for easy installation in tight spaces  
Precise 0.05 in. / 1.27 mm pitch helps ensure compatibility with various connect

### **Typical properties**

Application  
High-flexibility Connecting  
Factory ISO Certification  
No ISO Certification information available  
Features  
Halogen-free  
Insulation Color  
Gray  
Insulation Material  
Halogen Free Polyolefin  
Number of Conductors  
10 , 14 , 16 , 20 , 26 , 30 , 34 , 40 , 50 , 64  
Number of Strands  
19  
Pitch (Imperial)  
0.05 in  
Pitch (Metric)  
1.27 mm  
Tech Sheet Number  
TS-2565  
Wire Size  
28 AWG  
eClass 14 Classification Group  
27060106

### **Dimensions and Classifications**

Overall Length (Imperial)  
100 ft  
Overall Length (Metric)  
30.48 m

# 3M™ Bumpon™ Protective Products SJ5309 Clear, 1000/Case

3M ID 7000029678 UPC 00021200445125

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Acrylic (A20)  
Application  
Custom  
Availability  
Make to Order  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
75 Shore M  
Height-Thickness Range  
0.400 - 0.499 in  
Height-Thickness Range (Metric)  
10.0 - 19.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Transparent  
Product Form  
Molded  
Product Series  
SJ5309  
Product Type  
Bumper  
Shape  
Cylindrical with Concave Top  
Width-Diameter Range  
0.800 - 0.899 in  
Width-Diameter Range (Metric)  
20.0 - 29.9 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Diameter (Imperial)

0.88 in

Overall Diameter (Metric)

22.4 mm

Overall Height (Imperial)

0.4 in

Overall Height (Metric)

10.2 mm

Overall Length (Imperial)

0.88 in

Overall Length (Metric)

22.4 mm

Overall Width (Imperial)

0.4 in

Overall Width (Metric)

10.2 mm

## **3M™ High Flex Life Cable, 3319 Series**

3M Product Number 3319 Series 3M ID B00039650 UPC 00051111655108

### **Details**

Foldable flat cable delivers long-term dynamic flexibility  
High strength copper alloy wire strands provide flex life for dynamic applications  
Tested for repetitive flex life of 100 million cycles at 1 3/4" diameter  
28 AWG wire permits mass termination to

## 3M™ Bumpon™ Protective Products SJ5514

### Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

### Typical properties

Adhesive Type  
Natural Rubber (R30)  
Application  
Heavier Appliances/Electronic Device Feet - Anti-Skid  
Availability  
Make to Order, Stocked  
Backing Material  
Polyurethane  
Base Width  
0.812 in  
Base Width (Metric)  
20.6 mm  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.500 - 0.599 in  
Height-Thickness Range (Metric)  
10.0 - 19.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black, Gray, White  
Product Form  
Molded  
Product Series  
SJ5514  
Product Type  
Bumper  
Shape  
Square-Tapered w/ Flat Top  
Width-Diameter Range  
0.800 - 0.899 in  
Width-Diameter Range (Metric)  
20.0 - 29.9 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Height (Imperial)

0.52 in

Overall Height (Metric)

13.21 mm

Overall Length (Imperial)

0.81 in

Overall Length (Metric)

20.58 mm

Overall Width (Imperial)

0.81 in

Overall Width (Metric)

20.58 mm

# 3M™ Bumpon™ Resilient Rollstock SJ5916

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Acrylic (A20)  
Application  
Cushioning Spacer, Cushioning Stop, Dampen Noise/Reduce Vibration, Die Cut  
Parts for Drink Holder, Gasketing, Surface Protection for Sub-Assembly Racks  
Availability  
Make to Order, Stocked  
Backing Material  
Polyurethane Foam  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
40 Shore M  
Height-Thickness Range  
0.001 - 0.099 in  
Height-Thickness Range (Metric)  
1.0 - 1.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black  
Product Form  
Rollstock  
Product Type  
Rollstock  
Roll Width (Imperial)  
4.5 in, 9 in  
Roll Width (Metric)  
114 mm, 229 mm  
Shape  
Rollstock  
Width-Diameter Range  
4.00 - 4.99 in, 9.00 - 9.99 in  
Width-Diameter Range (Metric)  
100.0 - 199.9 mm, 200.0 - 299.0 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Length (Imperial)

36 yd

Overall Length (Metric)

32.91 m

Overall Thickness (Imperial)

0.062 in, 0.063 in

Overall Thickness (Metric)

1.6 mm

Overall Width (Imperial)

4.5 in, 9 in

Overall Width (Metric)

11.43 cm, 22.86 cm



# 3M™ Bumpon™ Protective Products SJ6344 Black, 2600 per case

3M ID 7000052063 UPC 00021200409523

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure sensitive adhesives  
Low friction feet to enable sliding heavier objects on surfaces  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will

## Typical properties

Adhesive Type  
Synthetic Rubber (R25)  
Application  
Heavier Appliances/Electronic Device Feet - Easy Slide  
Availability  
Stocked  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.100 - 0.199 in  
Height-Thickness Range (Metric)  
4.0 - 4.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black  
Product Form  
Molded  
Product Series  
SJ6344  
Product Type  
Bumper  
Shape  
Cylindrical with Flat Top  
Width-Diameter Range  
0.700 - 0.799 in  
Width-Diameter Range (Metric)  
10.0 - 19.9 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Diameter (Imperial)

0.75 in

Overall Diameter (Metric)

19.05 mm

Overall Height (Imperial)

0.16 in

Overall Height (Metric)

4.06 mm

## 3M™ Twisted Pair Flat Cable HF100 Series

3M Product Number HF100 Series 3M ID B00039379 UPC 00051115592904

### Details

Low Smoke Zero Halogen (LSZH) insulation helps reduce smoke and combustion gas toxicity in case of fire  
Broad operating temperature range from -40 degrees C to 105 degrees C  
28 AWG wire on .050 inch centers permits mass termination to broad line of ID

### Typical properties

Application  
Crosstalk Reduction, High-flexibility Connecting, Mass Termination, Noise Immunity  
Factory ISO Certification  
No ISO Certification information available  
Features  
Halogen Free  
Insulation Color  
White/Blue  
Insulation Material  
Halogen Free Polyolefin  
Number of Conductors  
10 , 14 , 16 , 20 , 24 , 26 , 30 , 34 , 40 , 50 , 60 , 64  
Number of Pairs  
5 , 7 , 8 , 10 , 12 , 13 , 15 , 17 , 20 , 25 , 30 , 32  
Number of Strands  
7  
Pitch (Imperial)  
0.05 in  
Pitch (Metric)  
1.27 mm  
Product Usage  
Computers, Control Modules, Controllers, IDC Connectors, Recording Equipment, Sensors  
Specifications Met  
RoHS 2011/65/EU  
Tech Sheet Number  
TS-2344  
Wire Size  
28 AWG  
eClass 14 Classification Group  
27061801

### Dimensions and Classifications

Overall Length (Imperial)  
100 ft, 300 ft  
Overall Length (Metric)  
30.48 m, 91.44 m

## **3M™ Round Conductor Flat Cable, 3756 Series**

3M Product Number 3756 Series 3M ID B00039612 UPC 00051119929089

### **Details**

Round conductor flat cable for easier installation and routing  
Thin and flexible flat cable design for limited-space installations  
Conductor made of stranded material for enhanced durability and flexibility  
TPE insulation provides excellent resistance

### **Typical properties**

Application  
Mass Termination  
Cable Type  
Solid  
Factory ISO Certification  
No ISO Certification information available  
Insulation Color  
Gray  
Insulation Material  
TPE  
Number of Conductors  
10 , 12 , 14 , 16 , 20 , 24 , 26 , 30 , 34 , 36 , 40 , 50 , 60 , 68 , 80 , 100  
Number of Strands  
7  
Pitch (Imperial)  
0.025 in  
Pitch (Metric)  
0.635 mm  
Specifications Met  
RoHS 2011/65/EU  
Tech Sheet Number  
TS-0508  
Wire Size  
30 AWG  
eClass 14 Classification Group  
27060106

### **Dimensions and Classifications**

Overall Length (Imperial)  
100 ft, 300 ft  
Overall Length (Metric)  
30.48 m, 91.44 m

## 3M™ Round Conductor Flat Cable, 8124 Series

3M Product Number 8124 Series 3M ID B00039636 UPC 00051111966280

### Details

For applications requiring higher current carrying capability  
Size 22 AWG tinned stranded copper wire provides flexibility and extended cable life  
Individually insulated conductors are laminated to a PVC backing which can be zipped apart for branching o

### Typical properties

Application  
Mass Termination  
Factory ISO Certification  
No ISO Certification information available  
Insulation Color  
Gray  
Insulation Material  
PVC  
Number of Conductors  
4 , 5 , 6 , 7 , 8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 20 , 22 , 24 , 25 , 26 ,  
28 , 30 , 32 , 34 , 35 , 37 , 40  
Number of Strands  
7  
Pitch (Imperial)  
0.1 in  
Pitch (Metric)  
2.54 mm  
Tech Sheet Number  
TS-0084  
Wire Size  
22 AWG  
eClass 14 Classification Group  
27060106

### Dimensions and Classifications

Overall Length (Imperial)  
100 ft  
Overall Length (Metric)  
30.48 m

## **3M™ Pleated Foil Shielded Cable, 90111 Series**

3M ID B00039682 UPC 00051111527320

### **Details**

Can be used with IDC mass termination connectors  
Can be used in applications requiring standard impedance of 75  $\Omega$  single ended  
CL2 rated, rugged design, and high reliability for peripheral applications  
Solid pleated copper foil provides flexibility and

### **Typical properties**

Application  
Signal Integrity  
Cable Type  
Shielded  
Factory ISO Certification  
No ISO Certification information available  
Insulation Color  
Gray  
Insulation Material  
PVC  
Jacket Color  
Gray  
Jacket Material  
PVC  
Number of Conductors  
68 , 80  
Number of Strands  
1  
Pitch (Imperial)  
0.025 in  
Pitch (Metric)  
0.635 mm  
Tech Sheet Number  
TS-0451  
Wire Size  
30 AWG  
eClass 14 Classification Group  
27060106

## 3M™ Round Conductor Flat Cable, 3355 Series

3M Product Number 3355 Series 3M ID B00039706 UPC 00051111470411

### Details

Round conductor flat cable brings optimal design flexibility and performance  
Flat cable conductor with size 28 AWG stranded wire, TPE insulation  
Great for compact and limited-space applications  
Easy to install and maintain  
Provides reliable and efficient

### Typical properties

Application  
Mass Termination  
Factory ISO Certification  
No ISO Certification information available  
Insulation Color  
Gray  
Insulation Material  
TPE  
Number of Conductors  
9 , 10 , 14 , 15 , 16 , 18 , 20 , 24 , 25 , 26 , 30 , 34 , 40 , 50 , 60 , 64  
Number of Strands  
7  
Pitch (Imperial)  
0.05 in  
Pitch (Metric)  
1.27 mm  
Specifications Met  
RoHS 2011/65/EU  
Tech Sheet Number  
TS-0317  
Wire Size  
28 AWG  
eClass 14 Classification Group  
27060106

### Dimensions and Classifications

Overall Length (Imperial)  
100 ft  
Overall Length (Metric)  
30.48 m

# 3M™ Standard Assembly Pressl 3640, Silver, 1 ea/Case

3M ID 7000057746 UPC 00054007315568

## Typical properties

Brands

3M™

Factory ISO Certification

No ISO Certification information available

For Use With

Press Tools

Tech Sheet Number

FA-0015

eClass 14 Classification Group

21049090



## 3M™ Mini-Clamp Socket Straight 372 Series

3M Product Number 372 Series 3M ID B00043738 UPC 04547452450220

### Details

Connects straight to the board, ensuring a secure and stable connection  
Compact design allows for space-saving installation in tight areas  
Provides a wide range of options with one-, two- and four-port variants for versatile connectivity solutions  
Sold

### Typical properties

Application  
Wire-to-board Connecting  
Connection Type  
Solder  
Connector Style  
Receptacle  
Factory ISO Certification  
No ISO Certification information available  
Insulation Material  
Nylon  
Mounting Type  
Boardmount  
Number of Contact Rows  
1 , 2 , 4  
Number of Contacts  
3 , 4 , 6 , 8 , 12 , 16  
Pitch (Imperial)  
0.08 in  
Pitch (Metric)  
2 mm  
Product Color  
Black  
Specifications Met  
China RoHS, RoHS 2011/65/EU  
Tech Sheet Number  
TS-2093  
Termination Method  
Solder  
eClass 14 Classification Group  
27460202

## 3M™ Bumpon™ Protective Products SJ5523

### Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

### Typical properties

Adhesive Type  
Natural Rubber (R30)  
Application  
Heavier Appliances/Electronic Device Feet - Anti-Skid  
Availability  
Make to Order, Stocked  
Backing Material  
Polyurethane  
Base Width  
0.812 in  
Base Width (Metric)  
20.6 mm  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.300 - 0.399 in  
Height-Thickness Range (Metric)  
7.0 - 7.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black, Gray, White  
Product Form  
Molded  
Product Series  
SJ5523  
Product Type  
Bumper  
Shape  
Square-Tapered w/ Flat Top  
Width-Diameter Range  
0.800 - 0.899 in  
Width-Diameter Range (Metric)  
20.0 - 29.9 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Height (Imperial)

0.3 in

Overall Height (Metric)

7.6 mm

Overall Length (Imperial)

0.812 in

Overall Length (Metric)

20.6 mm

Overall Width (Imperial)

0.3 in

Overall Width (Metric)

7.6 mm

# 3M™ Bumpon™ Protective Products SJ5745 Black, 3000/Case

3M ID 7000051954 UPC 00021200710506

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Natural Rubber (R30)  
Application  
Custom  
Availability  
Make to Order  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.200 - 0.299 in  
Height-Thickness Range (Metric)  
6.0 - 6.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black  
Product Form  
Molded  
Product Series  
SJ5745  
Product Type  
Bumper  
Shape  
Cylindrical with Flat Top  
Width-Diameter Range  
0.500 - 0.599 in  
Width-Diameter Range (Metric)  
10.0 - 19.9 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Diameter (Imperial)

0.5 in

Overall Diameter (Metric)

12.7 mm

Overall Height (Imperial)

0.25 in

Overall Height (Metric)

6.4 mm

Overall Length (Imperial)

0.5 in

Overall Length (Metric)

12.7 mm

Overall Width (Imperial)

0.25 in

Overall Width (Metric)

6.35 mm

# 3M™ Bumpon™ Protective Products SJ6144 Black, 2600/Case

3M ID 7000126210 UPC 00021200303951

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Synthetic Rubber (R25)  
Application  
Heavier Appliances/Electronic Device Feet - Easy Slide  
Availability  
Make to Order  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.100 - 0.199 in  
Height-Thickness Range (Metric)  
4.0 - 4.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black  
Product Form  
Molded  
Product Series  
SJ6144  
Product Type  
Bumper  
Shape  
Cylindrical with Flat Top  
Width-Diameter Range  
0.700 - 0.799 in  
Width-Diameter Range (Metric)  
10.0 - 19.9 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Diameter (Imperial)

0.75 in

Overall Diameter (Metric)

19.1 mm

Overall Height (Imperial)

0.16 in

Overall Height (Metric)

4.1 mm

Overall Length (Imperial)

0.75 in

Overall Length (Metric)

19.05 mm

Overall Width (Imperial)

0.16 in

Overall Width (Metric)

4.06 mm

# 3M™ D Ribbon Wiremount Socket, Metal Faced, 3000 Series

3M ID B00046114

## Details

Back mount application allows grounding directly to cabinet  
Uses standard hardware  
Accepts 26-28 AWG in .050" inch flat cable or discrete wire  
Contact design efficiency enables multiple insertion/withdrawals  
Accepts .050" inch round, flat or jacketed

## Typical properties

Connector Style  
Receptacle  
Mounting Type  
Wiremount  
Pitch (Imperial)  
0.085 in  
Pitch (Metric)  
2.16 mm  
Tech Sheet Number  
TS-0022  
Termination Method  
IDC  
eClass 14 Classification Group  
27440307



# **3M(TM) Pin Strip Header, 961 Series, 961106-5500-AR-PR**

3M ID 7100079218

## **Details**

High temperature dielectric

“No lead” reflow solder compatible

End stackable feature

Single- and dual row version

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information

For more information, refer to TS

## **Typical properties**

Application

Board-to-board Connecting, Wire-to-board Connecting

Factory ISO Certification

No ISO Certification information available

Tech Sheet Number

TS-2184

eClass 14 Classification Group

27460201

# 3M™ XYZ-Axis Electrically Conductive Adhesive Transfer Tape 9720S

## Details

Lower R non-woven conductive scrim versus 9713  
Isotropic XYZ-axis electrical connectivity  
Thin adhesive layer (30 micron)  
Thinner scrim design  
Medium adhesion acrylic adhesive  
Can be applied in strips or die cut to specific shapes & sizes

## Typical properties

Adhesive Type: Acrylic  
Factory ISO Certification: No ISO Certification information available  
Product Usage: Sensors  
Total Tape Thickness without Liner (Imperial): 1.2 mil  
Total Tape Thickness without Liner (Metric): 0.03 mm

## Dimensions and Classifications

Overall Length (Imperial): 10.936 yd, 109.361 yd  
Overall Length (Metric): 10 m, 100 m  
Overall Width (Imperial): 0.984 in, 19.685 in  
Overall Width (Metric): 25 mm, 500 mm

## **3M™ HM Header, 8-Row, HM Series**

3M ID B00050403

### **Details**

Modular/scalable format IEC 61076-4-101

Press-fit or solder tail version

101 mated lines per linear inch

Ships with protective cap, which also serves as an insertion tool

End-to-end stackable with 8-row 3M™ HM and HSHM Connectors

See Regulatory Infor

### **Typical properties**

Tech Sheet Number: TS-2517

eClass 14 Classification Group: 27460201

## **3M™ Shielded Compact Ribbon (SCR) Connectors 363 Series**

3M Product Number 363 Series 3M ID B00046113 UPC 04547452747856

### **Details**

Complete shell kit for 3M™ Shielded Compact Ribbon (SCR) Wiremount Plug  
360-degree shielding for excellent electromagnetic interference (EMI) protection  
Quick-release latch system for connection security and ease of use  
Integrated strain-relieving cab

### **Typical properties**

Connector Style: Plug, Receptacle  
Contact Base Material: Copper Alloy  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Glass Filled Polyester (PBT)  
Mounting Type: Wiremount  
Number of Contact Rows: 2  
Number of Contacts: 10  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Product Color: Black  
Tech Sheet Number: TS-2228,TS-2226  
eClass 14 Classification Group: 27460201

## 3M™ Pak 50 Boardmount Plug, P50 Series

3M Product Number P50 Series 3M ID B00046676 UPC 00051111779002

### Details

Vertical stacking connector is available in 20, 24 and 30 mm stacking heights  
Custom stack heights available between 18 and 30 mm  
Connector design features two mating points per contact for reliability  
Alignment posts provide accurate mating with stra

### Typical properties

Application: Board-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Plug  
Contact Base Material: Phosphor Bronze  
Contact Termination Area Plating Material: Gold Flash  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Stackable  
Insulation Color: Black  
Insulation Height (Imperial): 0.421 in  
Insulation Height (Metric): 10.7 mm  
Insulation Material: Glass Filled Nylon, Glass Filled Polyamide Nylon  
Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 500 VDC  
Latch/Ejector Type: Latch Holder  
Mating Contact Finish Material: Gold  
Mating Option: Board to Board, Board to Cable, Board to Wire, None  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 0 , 2  
Number of Contacts: 0 , 24 , 60 , 100  
PCB Mounting Style: Through Hole  
Post Contact Finish Material: Gold  
Process Temperature Rating: 260 °C (Wave Solder Compatible)  
Product Series: P50  
Shroud Style: 4 Wall  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-2048  
Voltage Rating: 650 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

# 3M™ I/O Interconnect System 2.0 mm for IEEE 1394 3E106 Series

3M ID B00050137 UPC 04548623140063

## Details

Suitable for use in challenging environments, such as a factory production floor  
Robust ribbon style contact for reliable, repetitive plugging  
Body tabs provide lateral support to solder joints and help enable shield grounding  
Upright orientation conse

## Typical properties

Connector Style: Plug  
Contact Base Material: Copper Alloy  
Factory ISO Certification: No ISO Certification information available  
Flammability: UL 94V-0  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 6  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Product Color: Silver  
Tech Sheet Number: TS-2397,TS-2294  
eClass 14 Classification Group: 27460201

## **3M™ Wiremount Socket, 3000 Series**

3M Product Number 3000 Series 3M ID B00050192

### **Details**

Reliable and efficient IDC socket connector for various applications  
Positive locking metal "J" clip for secure cover retention  
Optional strain relief and pull tab for added convenience  
Gray insulated connector made with durable glass-filled polyester

### **Typical properties**

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Features: Polarizing Key, Strain Relief  
Insulation Color: Gray  
Insulation Material: Glass Filled Polyester (PBT)  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Product Series: 3000  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0096  
Termination Method: IDC  
eClass 14 Classification Group: 27460202

**3M™ Thermally Conductive Heat Spreading Tape (TCoHST) 9876-10,  
500 mm x  
50 m, 1/Case**

3M ID 7000008596 UPC 00051115526503

**Details**

Excellent thermal conductivity on plane direction ( >210-250 W/m-K)  
Excellent flexibility  
Selective thermal spreading path for uniform heat distribution  
Excellent electrical insulation  
High performance acrylic adhesive provides excellent adhesion to A

**Typical properties**

Adhesive Type: Acrylic  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Product Color: Brown  
Total Tape Thickness without Liner (Imperial): 3.9 mil  
Total Tape Thickness without Liner (Metric): 0.1 mm

**Dimensions and Classifications**

Overall Length (Imperial): 54.68 yd  
Overall Length (Metric): 50 m  
Overall Width (Imperial): 19.69 in  
Overall Width (Metric): 500 mm  
Thermal Conductivity (X-Y Axis): 250 W/m-K  
Thermal Conductivity (Z Axis): 0.8 W/m-K



# **3M™ I/O Interconnect System 2.0 mm for IEEE 1394, 3E206 Series, 3E206-0100KV, 100 Ea/Case**

3M ID 7000007657 UPC 04548623140087

## **Details**

Designed to mate to all 3M I/O Interconnect System 2.0 mm for IEEE 1394  
Boardmount Plugs  
Polarized to provide proper insertion  
Robust ribbon style contact for reliable, repetitive plugging  
Six Contacts can carry signal or power (up to one amp per pin)

## **Typical properties**

Brands: 3M™  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Factory ISO Certification: No ISO Certification information available  
Flammability: UL 94V-0  
Material: Nylon  
Mounting Type: Wiremount  
Number of Contact Rows: 2  
Number of Contacts: 6  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Product Color: Black  
Solder Tails: Gold Flash  
Tech Sheet Number: TS-2296  
eClass 14 Classification Group: 27460201

## **3M™ DIN R-Form Socket, DIN 41612 Series**

3M ID B10467885 UPC 00051119943245

### **Details**

Inverse boardmount connector

Select load capability

Expanded pin counts

Optional retention clips

Mates with C-form and R-form plugs

For more information, refer to Data Sheet TS2308 (TS-2308)

### **Typical properties**

Connector Style: Receptacle

Factory ISO Certification: No ISO Certification information available

Insulation Flammability Rating: UL 94V-0

Mounting Type: Boardmount

Number of Contact Rows: 3

Number of Contacts: 48 , 96

Pitch (Imperial): 0.01 in

Pitch (Metric): 2.54 mm

Tech Sheet Number: TS-2308

eClass 14 Classification Group: 27460201

## 3M™ Polarized Boardmount Socket, 8500 Series

3M Product Number 8500 Series 3M ID B30000144 UPC 04547452262915

### Details

Centerbump polarization makes for accurate connections  
Mates with low-profile shrouded headers  
Part number clearly labeled on each piece for easy identification  
Optional keying plug helps maximize accuracy  
Straight solder tails help stabilize the sock

### Typical properties

Application: Board-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Termination Area Plating Material: Gold Flash  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 79 µin  
Contact Underplating Thickness (Metric): 2 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: Kinked Pin, Solder, Polarizing Key  
Insulation Color: Gray  
Insulation Height (Imperial): 0.425 in  
Insulation Height (Metric): 10.8 mm  
Insulation Material: Glass Filled Polyester (PBT)  
Latch/Ejector Type: Push-in/Pull-out  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): >8 µin  
Mating Contact Finish Thickness (Metric): >0.2 µm  
Mating Option: Board to Board, Board to Cable  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 10 , 16 , 20 , 26 , 34 , 40 , 50 , 60  
PCB Mounting Angle: Straight  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 0.1 mm  
Post Contact Finish Material: Gold  
Process Temperature Rating: 260 °C for 10 sec (Wave Solder), 390 °C for 3 sec (Soldering Iron)  
Product Series: 8500  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-0413  
Voltage Rating: 1000 V  
eClass 14 Classification Group: 27460201

## 3M™ Thru-Board Socket, 929 Series

3M ID B30000161 UPC 50051138252620

### Details

3-40 contacts on one row, 4-80 on two row  
Single hole board preparation simplifies board layout  
No solder mask preparation speeds manufacturing assembly  
Top mounting allows single pass for wave soldering  
See Regulatory Information Appendix (last page)

### Typical properties

Application: Board-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Termination Area Plating Material: None  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin  
Contact Underplating Thickness (Metric): 2.54 µm  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Gray  
Insulation Material: Glass Filled Polyester (PET)  
Insulation Resistance: > 1 x 10<sup>9</sup> Ohm at 500 VDC, >1x10<sup>9</sup> Ω @ 500 VDC  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 10 µin, 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm, 0.25 µm  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Moisture Sensitivity Level: 1 (Per J-STD-020C)  
Number of Contact Rows: 1, 2 null, 2  
Number of Contacts: 3, 4, 18, 20 null, 26 null, 54, 58 null  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Process Temperature Rating: 260 °C (Per J-STD-020C)  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-0814  
eClass 14 Classification Group: 27460201

## 3M™ Four-Wall Condo Header 3000 Series

3M Product Number 3000 Series 3M ID B30000108 UPC 08887862427242

### Details

Stacked pins conserve space on the circuit board for high-density packaging  
Features up to 128 pins with latching  
Excellent alternative to HDI  
High-temp insulator allows for no-lead soldering  
Mates with standard flat cable harnesses and accepts standa

### Typical properties

Application: Wire-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Stacked Header  
Contact Base Material: Copper Alloy  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: Mounting Flange  
Insulation Color: Black  
Insulation Height (Imperial): 0.66 in  
Insulation Height (Metric): 16.76 mm  
Insulation Material: Glass Filled Polyester (PBT) or High Temperature (PCT)  
Latch/Ejector Type: Latch Lock/Eject Hooks (Long), Latch Lock/Eject Hooks (Short)  
Mating Contact Finish Material: Gold  
Mating Option: Board to Board, Board to Cable, Board to Wire  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 20 , 28 , 32 , 40 , 52 , 68 , 80 , 100 , 120 , 128  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 0.1 mm  
Post Contact Finish Material: Matte Tin  
Product Series: 3000  
Shroud Style: 4 Wall  
Specifications Met: RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0774  
Voltage Rating: 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

## 3M™ Pak 50 Plug, P50 Series

3M ID B30000128 UPC 00051111739099

### Details

Power/ground contacts enable separation of power and signals  
EMLB power/ground contacts control static discharge and allow "hot board" replacement  
2 amp power/ground contact rating for high current applications maximizes signal contact utilization  
RoHS

### Typical properties

Application: Board-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Plug  
Contact Base Material: Phosphor Bronze  
Contact Termination Area Plating Material: Gold Flash  
Contact Underplating Material: Nickel  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Ground Pins  
Insulation Color: Black  
Insulation Height (Imperial): 0.275 in, 0.421 in, 0.461 in  
Insulation Height (Metric): 6.99 mm, 10.7 mm, 11.7 mm  
Insulation Material: Glass Filled Nylon, Glass Filled Polyamide Nylon  
Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 500 VDC  
Latch/Ejector Type: Latch Holder  
Mating Contact Finish Material: Gold  
Mating Option: Board to Board, Board to Cable, Board to Wire  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 20 , 30 , 40 , 68 , 80  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 0.05 mm  
Post Contact Finish Material: Gold  
Process Temperature Rating: 260 °C (Wave Solder Compatible)  
Product Series: P50  
Shroud Style: 4 Wall  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-2051  
Voltage Rating: 650 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

# 3M™ Diamond Lapping Film Disc 668X

## Details

- PSA-backed
- Most widely used diamond lapping film
- Fast cut, increased throughput
- Flat surfaces and low edge rounding
- Uniform finish
- Long abrasive life minimizes abrasive changes
- Available in rolls, discs and sheets

## Typical properties

- Abrasive Material: Diamond
- Application: Final Finishing, Flat Lapping, Grinding, Polishing, Refining, Shaping, Superfinishing
- Attachment Type: PSA Back
- Center Hole Diameter (Imperial): 1.25 in
- Center Hole Diameter (Metric): 31.75 mm
- Factory ISO Certification: No ISO Certification information available
- Micron Grade: 0.1  $\mu\text{m}$ , 0.5  $\mu\text{m}$ , 1  $\mu\text{m}$ , 15  $\mu\text{m}$ , 3  $\mu\text{m}$ , 30  $\mu\text{m}$ , 6  $\mu\text{m}$ , 9  $\mu\text{m}$
- Polishing Process: Step 1: De-Nub/Epoxy Removal, Step 1b: Cut Angle, Step 2b: Refine/Level Connector (Ceramic Connector)
- Product Form: Disc
- Product Series: 668X
- Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors
- Substrate: Carbide, Ceramic, Composite, Exotic Alloy, Glass, Hardened Metal, Stone

## Dimensions and Classifications

- Overall Diameter (Imperial): 2 in, 4 in, 5 in, 8 in, 12 in
- Overall Diameter (Metric): 50.8 mm, 101.6 mm, 127 mm, 203.2 mm, 304.8 mm

## 3M™ Polarized Boardmount Socket, 9100 Series

3M Product Number 9100 Series 3M ID B30000145 UPC 04547452262960

### Details

Dual military polarization includes standard centerbump  
Mates with low-profile shrouded headers  
Part number clearly labeled on each socket for easy identification  
Optional keying plug makes for accurate board-to-board connection  
Straight solder tails

### Typical properties

Application: Board-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: Kinked Pin, Solder, Polarizing Key  
Insulation Color: Gray  
Insulation Height (Imperial): 0.354 in  
Insulation Height (Metric): 9 mm  
Insulation Material: Glass Filled Polyester (PBT)  
Latch/Ejector Type: Push-in/Pull-out  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): >8 µin  
Mating Contact Finish Thickness (Metric): >0.2 µm  
Mating Option: Board to Board, Board to Cable  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 20 , 26 , 34 , 40 , 50 , 64  
PCB Mounting Angle: Straight  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 0.1 mm  
Post Contact Finish Material: Gold  
Product Series: 9100  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-0690  
Voltage Rating: 1000 V  
eClass 14 Classification Group: 27460201



## 3M™ Through-Board Socket, 1532 Series

3M Product Number 1532 Series 3M ID B30000160 UPC 00051111661307

### Details

Excellent for applications where space is limited  
Top and bottom mateable through-board socket can reduce PCB stack heights  
End stackable for additional design flexibility  
High-temperature insulator adds protection in dense electronic designs  
Available

### Typical properties

Application: Board-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Bottom or Top Entry, Pick & Place  
Insulation Color: Black  
Insulation Height (Imperial): 0.129 in  
Insulation Height (Metric): 3.28 mm  
Insulation Material: Glass Filled LCP, Glass Filled Polyester (LCP)  
Insulation Resistance:  $>1 \times 10^9$  M $\Omega$  @ 250 VDC,  $>1 \times 10^9$   $\Omega$  @ 250 VDC  
Insulator Material: Glass Filled LCP  
Latch/Ejector Type: Push-in/Pull-out  
Mating Contact Finish Material: Gold  
Mating Option: Board to Board, Board to Cable  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Moisture Sensitivity Level: 1 (Per J-STD-020C)  
Number of Contact Rows: 2  
Number of Contacts: 4 , 8 , 14 , 16 , 20 , 24 , 26 , 30 , 36 , 40 , 42 , 46 , 50  
PCB Mounting Style: Surface Mount  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 0.079 mm  
Post Contact Finish Material: Tin  
Process Temperature Rating: 260 °C (Per J-STD-020C)  
Product Series: 1532  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-0521  
Voltage Rating: 500 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

# 3M™ Electrically Conductive Cushioning Gasket Tape ECG7073H

3M ID B00031544

## Details

- XYZ electrical conductivity
- Conformable-Soft single sided
- Provides EMI shielding and grounding
- Good adhesion to many substrates
- Single sided adhesive

## Typical properties

- Adhesive Type: Acrylic
- Application: Cushioning, EMI Shielding, Electrostatic Discharge (ESD), Gap Filling, Grounding
- Material: Conductive Polyurethane Foam
- Product Color: Black
- Product Usage: Bond Line Gaps, Printed Circuit Boards, Sensors
- eClass 14 Classification Group: 27140708

# 3M™ Electrically Conductive Cushioning Gasket Tape ECG8075H

3M ID B10134481

## Details

XYZ electrical conductivity  
Conformable-Soft  
Provides EMI shielding and grounding  
Good adhesion to many substrates  
Dual sided adhesive

## Typical properties

Adhesive Type: Acrylic  
Application: Cushioning, EMI Shielding, Electrostatic Discharge (ESD), Gap Filling, Grounding  
Material: Conductive Polyurethane Foam  
Product Color: Black  
Product Usage: Bond Line Gaps, Printed Circuit Boards, Sensors  
eClass 14 Classification Group: 27140708

# 3M™ Electrically Conductive Adhesive Transfer Tape 9703

## Details

- Anisotropic Z-axis electrical conductivity
- Low-outgassing acrylic adhesive
- PSA tack properties
- Thermal curing not required
- Easy to use in assembly operations
- Can be applied as die-cut parts or in roll form
- Halogen free\*
- RoHS compliant\*

## Typical properties

- Adhesion Strength (Imperial): 907 gf/in
- Adhesive Type: Acrylic
- Application: Attaching, Electrostatic Discharge (ESD), Grounding, Interconnecting
- Brands: 3M™
- Electrical Resistance: Z-axis 0.01  $\Omega$
- Factory ISO Certification: No ISO Certification information available
- Liner Material: PET
- Maximum Operating Temperature (Celsius): 85 °C
- Maximum Operating Temperature (Fahrenheit): 185 °F
- Minimum Operating Temperature (Celsius): -40 °C
- Minimum Operating Temperature (Fahrenheit): -40 °F
- Product Color: Silver
- Product Usage: Camera Modules, Chassis, Flexible Printed Circuits, Printed Circuit Boards, Sensors
- Shelf Life: 24 Month
- Total Tape Thickness without Liner (Imperial): 2 mil
- Total Tape Thickness without Liner (Metric): 0.05 mm

## Dimensions and Classifications

- Overall Length (Imperial): 10 yd, 36 yd, 80 yd, 108 yd
- Overall Length (Metric): 9.144 m, 32.918 m, 73.152 m, 98.755 m
- Overall Width (Imperial): 0.25 in, 0.5 in, 1 in, 4 in, 6 in, 12 in, 24 in
- Overall Width (Metric): 6.35 mm, 12.7 mm, 25.4 mm, 101.6 mm, 152.4 mm, 304.8 mm, 609.6 mm

## 3M™ MetPak™ 2-FB Inverse Header, MP2 Series

3M ID B10406821 UPC 10051119913283

### Details

Three levels of early mate, late break (EMLB) sequencing or selective loading options  
Footprint compatible with standard Futurebus+®  
Solder tail with true-position wafer  
Ideal for hot swapping applications  
End-to-end stackable  
Right angle male for da

### Typical properties

Connector Style: Pin Header  
Contact Base Material: Copper Alloy  
Current Rating: 1.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Inverse  
Flammability: UL 94V-0  
Insulation Color: Beige  
Insulation Material: High Temperature LCP  
Insulation Resistance: 10<sup>3</sup> MegaOhms  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 3 µin, 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm, 0.076 µm  
Moisture Sensitivity Level: 1 (Per J-STD-020C)  
Mounting Type: Boardmount  
Number of Contact Rows: 5  
Number of Contacts: 30 , 60 , 120 , 210 , 240  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Packaged Form: Bulk, Tube  
Physical Plating Property: 50 micro inches [1.27 micro meter] Nickel, 50 microinches [1.27 micrometers] Nickel  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Process Temperature Rating: 260 Degrees C (Profile per J-STD-020C)  
Product Series: MP2  
Solder Tails: See Ordering Information  
Tech Sheet Number: TS-1122  
Temperature Rating: -55 Degree C to +125 Degree C  
Termination Method: Solder  
UnderPlating Material: 50 micro inches [1.27 micro meter] Nickel  
Wiping Area (Plating): See Ordering Information  
Withstanding Voltage: 1000 VAC  
eClass 14 Classification Group: 27460201

# **3M™ Power Connectors for CompactPCI™ Applications, Female, Solder and Press-fit Type**

3M ID B10420635

## **Details**

Designed to meet CompactPCI power interface specification PICMG 2.11 for Zone 1 connector  
Combines power and signal – 20 DC power contacts, 3 AC power contacts and 24 signal contacts  
Eurocard form factors  
Provides redundant power and system management

## **Typical properties**

Tech Sheet Number: TS-2370  
eClass 14 Classification Group: 27460201

# **3M™ Thermally Conductive Adhesive Transfer Tape 8815, 4 in x 10 yds, 6/Case, Sample**

3M ID 7000050173 UPC 00021200599910

## **Details**

- High mechanical strength
- Improved surface wet-out for rough surface/LSE substrates
- Excellent shock performance
- Wider and longer roll is available
- Halogen free
- Ideal for thin bonding applications
- Good thermal transfer

## **Typical properties**

- Adhesive Type: Acrylic
- Brands: 3M™
- Factory ISO Certification: No ISO Certification information available
- Total Tape Thickness without Liner (Imperial): 15 mil
- Total Tape Thickness without Liner (Metric): 0.375 mm

## **Dimensions and Classifications**

- Overall Length (Imperial): 10 yd
- Overall Length (Metric): 9.14 m
- Overall Width (Imperial): 4 in
- Overall Width (Metric): 101.6 mm

# **3M™ Thermally Conductive Acrylic Interface Pad 5571**

3M ID B40044801

## **Details**

High thermal conductivity, 2.0 W/m-K on plane direction  
Good softness and conformability even to non-flat IC surfaces and heat spreading blocks  
Passes UL 94 V-0 flame retardance test  
No siloxane outgassing or oil bleeding  
Soft compliant material allow

## **Typical properties**

Application: Electrical Insulation, Heat Dissipation, Heat Spreading, Heat Transfer, Thermal Management  
Product Usage: Battery Cooling Plates, Busbar, Displays, EV Batteries, Electronic Control Units, Inverters, Junction Boxes, LED Lighting Systems



## **3M™ EMI Absorber AB7000HF Series**

### **Details**

Target absorbing performance from 800 MHz - 2.5 GHz  
Broad operating frequency of 300 MHz to 4 GHz  
Polymer resin sheets are flexible for consistent coverage  
Filler consisting of soft metal flakes absorb noise into the polymer  
Acrylic pressure sensitive

### **Typical properties**

Application: EMI Absorbing  
Factory ISO Certification: No ISO Certification information available  
Frequency Range: 1 GHz - 3 GHz, 100 MHz - 1 GHz  
Product Usage: Antennas, Cables, Display Chip on Flex, Enclosures, Flexible  
Printed Circuits, Printed Circuit Boards, Semiconductor Chips  
eClass 14 Classification Group: 27182804

### **Dimensions and Classifications**

Overall Length (Imperial): 11.693 in  
Overall Length (Metric): 297 mm  
Overall Thickness (Imperial): 3.937 mil, 7.874 mil, 11.811 mil  
Overall Thickness (Metric): 0.1 mm, 0.2 mm, 0.3 mm  
Overall Width (Imperial): 8.268 in  
Overall Width (Metric): 210 mm

# 3M™ Very Low-Outgassing Polyester Tape 8439

## Details

Excellent shear strength which helps reduce chance of tape slippage when shear stress is applied  
Bleeds static charge rapidly  
Thin with high strength  
Low diffusivity - Effective contamination barrier  
Long aging - adhesive stable over long periods of t

## Typical properties

Adhesive Type: Acrylic  
Backing (Carrier) Material: Polyester  
Factory ISO Certification: No ISO Certification information available  
Product Color: Silver

## Dimensions and Classifications

Overall Length (Imperial): 10 yd, 62 yd, 72 yd, 144 yd  
Overall Length (Metric): 9.144 m, 56.693 m, 65.837 m, 131.674 m  
Overall Width (Imperial): 0.75 in, 1 in, 9.5 in, 24.5 in  
Overall Width (Metric): 19.05 mm, 25.4 mm, 241.3 mm, 622.3 mm

# 3M™ Wafer De-Taping Tape 3305, 210 mm x 100 m, 4/Case

3M ID 7100079058 UPC 00051141415277

## Details

Enables simple, low-stress, room temperature peeling of 3M™ Adhesives from thinned silicon wafers after glass carrier debonding  
Transparency allows for inspection without tape removal  
High instant adhesion to substrate  
Good holding power

## Typical properties

Adhesive Type: Rubber Resin  
Backing (Carrier) Material: Polyester  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Product Color: Transparent  
Total Tape Thickness without Liner (Imperial): 2.68 mil  
Total Tape Thickness without Liner (Metric): 68 Micron  
eClass 14 Classification Group: 23330202

## Dimensions and Classifications

Overall Length (Imperial): 109.361 yd  
Overall Length (Metric): 100 m  
Overall Width (Imperial): 8.27 in  
Overall Width (Metric): 210 mm

## **3M™ Textool™ Staggered ZIP Strip Sockets, 32 Position**

3M ID B00035259 UPC 04547452858385

### **Details**

For devices with .050" (1.27 mm) lead centers formed in staggered rows with .100" (2.54 mm) between centers and rows

Socket with top-plate cover requires vertical insertion of leads

Frequently used in pairs to handle devices with standard leads on oppos

### **Typical properties**

Factory ISO Certification: No ISO Certification information available

Frame Style: ZIP Socket

Number of Positions: 32

PCB Mounting Style: Through Hole

Tech Sheet Number: TS-0363

eClass 14 Classification Group: 27261708

# **3M™ Standard Socket / Header mil Compliant Wiremount Click Plug, 4200 Series, 4210-0000 SCMD, Gray, 100 Ea/Case**

3M ID 7100049009 UPC 04547452507016

## **Details**

Up to 5 Gbps data rates  
Low crosstalk at high frequencies  
50/100 Ohm (single-ended/differential) impedance  
Modular/scalable format IEC 61076-4-101

## **Typical properties**

Application: Wire-to-board Connecting  
Brands: 3M™  
Connector Shape: Rectangular  
Connector Style: Plug  
Contact Base Material: Copper Alloy  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Gray  
Mating Contact Finish Thickness (Imperial): >8 µin  
Mating Contact Finish Thickness (Metric): >0.2 µm  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 10  
PCB Mounting Angle: Straight  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
eClass 14 Classification Group: 27460201

## **3M™ Cable Assemblies for SFP+ Applications, 1410 Series**

3M Product Number 1410 Series 3M ID B00035523 UPC 00051115597336

### **Details**

Adds design flexibility to agile and scalable SFP+ applications  
Foldable, flexible cable allows for more cable in less space, ideal for 10 Gbps SFP+ connections  
Red, blue and black jacketing makes for easy port identification  
Flat twinax cable can be b

### **Typical properties**

Aggregate Data Rate: 10G  
Application: Networking  
Characteristic Impedance: 100 ohms  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): ST  
Connector Type (End B): ST  
Factory ISO Certification: No ISO Certification information available  
Form Factor: SFP+  
Number of Cable Assembly Lanes: x1  
Number of Conductors: 4  
Product Series: 1410  
Product Usage: Switch  
Protocol: Ethernet  
Standard Size: 3.0 m, 2.0 m, 1.0 m  
Tech Sheet Number: TS-2418  
eClass 14 Classification Group: 19051003

### **Dimensions and Classifications**

Overall Length (Imperial): 19.69 in, 39.37 in, 78.74 in, 118.11 in, 157.48 in, 196.85 in, 236.22 in, 275.59 in  
Overall Length (Metric): 0.5 m, 1 m, 2 m, 3 m, 4 m, 5 m, 6 m, 7 m

# 3M™ Lapping Film 262X, Discs

## Details

Tight particle distribution  
Softer resin than other aluminum oxide products  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## Typical properties

Abrasive Material: Aluminum Oxide  
Application: Buffing, Finishing, Flat Lapping, Polishing, Superfinishing  
Attachment Type: Plain Back  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 1 µm  
Polishing Process: Step 2b: Refine/Level Connector (Ceramic Connector)  
Product Form: Disc  
Product Series: 262X  
Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Hard Disc Drive Lubers, Media Heads, Optical  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## Dimensions and Classifications

Overall Diameter (Imperial): 5 in, 8 in  
Overall Diameter (Metric): 127 mm, 203.2 mm

# 3M™ Twin Axial Cable Assemblies for Internal HD MiniSAS to Internal miniSAS 36P Applications, 8UH4-BA113-00-1.00

3M ID 7010506999 UPC 00076308102807

## Details

MiniSAS HD (SFF-8087) provides double the data rate and density vs. 36P miniSAS

Excellent for transitions from 6G to 12G with backward compatibility

Meets SAS 2.1 (6 Gbps) and SAS 3.0 (12 Gbps)

Low-profile design helps preserve server space

Foldable,

## Typical properties

Application: High-speed Data Transmission

Brands: 3M™

Characteristic Impedance: 100 ohms

Connector Style (End A): Plug

Connector Style (End B): Plug

Connector Type (End A): ST

Connector Type (End B): ST

Factory ISO Certification: No ISO Certification information available

Form Factor: MiniSAS, MiniSAS HD

Number of Cable Assembly Lanes: x4

Number of Conductors: 36

Product Series: 8U

Product Usage: Backplane/Midplane, Board-to-board, Mid-board Cables

Protocol: SAS, SATA

Standard Size: 1.0 m, 0.5 m

Tech Sheet Number: TS-2622

Wire Gauge (Imperial): 30 AWG

eClass 14 Classification Group: 19051003

## Dimensions and Classifications

Overall Length (Imperial): 39.37 in

Overall Length (Metric): 1 m



## **3M™ CoaXPress Cable Assembly 1CXx-xx-0S Series**

3M Product Number 1CXx-xx-0S Series 3M ID B5005143008 UPC 00068060596772

### **Details**

Excellent for repetitive motion applications  
Functional cable length up to 8 m for CXP12, 11 m for CXP6  
Repeated bending durability is greater than 10 million cycles  
High-speed data transfer of up to 12.5 Gbps per channel (Micro-BNC, BNC connector spec)

### **Typical properties**

Application: High-flexibility Connecting, High-speed Connecting, High-speed Data Transmission  
Brands: 3M™  
Cable Length (Imperial): 9.843 ft, 13.123 ft, 16.404 ft, 19.685 ft, 22.966 ft, 26.247 ft, 29.528 ft  
Cable Length (Metric): 3 m, 4 m, 5 m, 6 m, 7 m, 8 m, 9 m  
Cable Outside Diameter (Imperial): 0.165 in  
Cable Outside Diameter (Metric): 4.2 mm  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): 1.0/2.3 DIN, BNC, Micro-BNC  
Connector Type (End B): 1.0/2.3 DIN, BNC, Micro-BNC  
Product Color: Black  
Product Series: 1CXx-xx-0S  
Product Usage: Cameras, Control Units, Frame Grabbers  
Protocol: CoaXPress  
Tech Sheet Number: TS-2784

# **3M™ Lapping Film 468X, 15.0 Micron PSA Disc, 10 in x NH, 50/Inner, 200/Case**

3M ID 7000044841 UPC 00051111499863

## **Details**

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## **Typical properties**

Abrasive Material: Silicon Carbide  
Application: Flat Lapping, Polishing, Superfinishing  
Attachment Type: PSA Back  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 15 µm  
Polishing Process: Step 1: De-Nub/Epoxy Removal, Step 1b: Cut Angle  
Product Form: Disc  
Product Series: 468X  
Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Optical  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## **Dimensions and Classifications**

Overall Diameter (Imperial): 10 in  
Overall Diameter (Metric): 254 mm

# **3M™ Mini Delta Ribbon (MDR) Cable Assembly, 141A0-SZ5B-XXX-0DC Series, 141A0-SZ5B-300-0DC**

3M ID 7010348208 UPC 00051135217061

## **Details**

24 shielded quad pairs (96 conductors) plus 4 drains  
Solution for high speed datacom and telecom applications  
Each differential pair is shielded with foil and braid for additional signal protection  
Rugged MDR ribbon type contact  
Quick release latches

## **Typical properties**

Brands: 3M™  
Cable Length (Imperial): 9.843 ft  
Cable Length (Metric): 3 m  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Jacket Material: PVC  
Number of Positions: 100  
Shell Material: Aluminum  
Specifications Met: AWM VW-1  
Tech Sheet Number: TS-0966  
eClass 14 Classification Group: 27060304

# 3M™ I/O Connector Mounting Options and Hardware

3M ID B00036044 UPC 00051111533611

## Details

For more Information refer to Data Sheet TS0142 (TS-0142)

## Typical properties

Factory ISO Certification: No ISO Certification information available

For Use With: D Sub Connectors, Delta Ribbon Connectors, MDR Connectors, SDR Connectors

Material: Stainless Steel, Steel

Product Type: Board Lock Screw, Jack Screw Kit, Jack Socket Screw, Mounting Kit, Panel Mount Screw

Tech Sheet Number: TS-0142

eClass 14 Classification Group: 27440292

# 3M™ Serial Attached SCSI (SAS) Connector, SBH Series, SBH-ST-29-SM-ML

3M ID 7000009231

## Details

6.0 Gbps input/output connector for HDD  
Two contact mating levels for early-mate and late-break allows "blind mating" or "hot swap" applications  
Meets SFF-8482 Specification  
Meets SAS Specification, SAS-2  
RoHS compliant  
For more information refer to

## Typical properties

Connector Style: Plug  
Current Rating: 1.5 A  
Factory ISO Certification: No ISO Certification information available  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 762 µm  
Number of Contact Rows: 1  
Number of Contacts: 29  
Orientation: Vertical  
PCB Mounting Style: Surface Mount  
Packaged Form: Tray  
Product Series: SBH  
Tech Sheet Number: TS-2178  
Withstanding Voltage: 500 Vrms at Sea Level  
eClass 14 Classification Group: 27440307

## 3M™ CF Card Header, 7E50 Series

3M ID B00036350 UPC 00051119923490

### Details

Headers mate with both CompactFlash™ Type I and Type II cards  
Polarization options for top or bottom boardmount  
Extended guide rails enable accurate and easy card insertion  
Single row surface mount solder tails facilitate auto placement and IR solderin

### Typical properties

Card Type: Type I/II  
Connector Style: Plug  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Card Guide  
Insertion/Removal Method: Push-in/Pull-out  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 15 µin, 30 µin  
Mating Contact Finish Thickness (Metric): 0.381 µm, 0.76 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 0 , 2  
Number of Contacts: 50  
Packaged Form: Tape & Reel, Tray  
Product Color: Beige  
Product Series: N7E50  
Stack Height (Imperial): 0.248 in  
Stack Height (Metric): 6.3 mm  
Tech Sheet Number: TS-2083  
Withstanding Voltage: 500 VAC for 1 min  
eClass 14 Classification Group: 27440211

# **3M™ Normal DIN 41612 Boardmount Socket, 7164 Series**

3M ID B00036736

## **Details**

High density (64 position)

Low mating force minimizes plating wear on contact surfaces

High reliability contact design

Solder tail options

Individual connector coding with the 3435-1 keying plug

See Regulatory Information Appendix (last page of Tech

## **Typical properties**

Tech Sheet Number: TS-0181

eClass 14 Classification Group: 27460201

## **3M™ Mini-Clamp Socket Right Angle 372 Series**

3M Product Number 372 Series 3M ID B00036759 UPC 04548623063584

### **Details**

Compact size allows for space-saving on the printed circuit board (PCB)  
Robust construction ensures durability and long-lasting performance  
Versatile design enables compatibility with a variety of applications  
Secure connection provides reliable and un

### **Typical properties**

Application: Wire-to-board Connecting  
Connection Type: Solder  
Connector Style: Receptacle  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: LCP  
Mounting Type: Boardmount  
Number of Contact Rows: 1  
Number of Contacts: 3 , 4  
Pitch (Imperial): 0.08 in  
Pitch (Metric): 2 mm  
Product Color: Black  
Specifications Met: China RoHS, RoHS 2011/65/EU  
Tech Sheet Number: TS-2271  
Termination Method: Solder  
eClass 14 Classification Group: 27460202



## 3M™ Mini Delta Ribbon (MDR) 102XX-0210EC 102 Series

3M ID B00036874 UPC 04901690090592

### Details

Wiper-on-wiper contact for reliable repetitive plugging  
IEEE 1284C Interface as a 36-contact connector  
Interface latch design for connection stability  
Accepts a wide variety of cable constructions including flat, shielded flat and twisted pair cables

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin, 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm, 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Glass Filled Polyester (PBT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin, 8 µin  
Mating Contact Finish Thickness (Metric): 0.2 µm, 0.76 µm  
Maximum Conductor Size (Imperial): 28 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Conductor Size (Imperial): 28 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Wiremount  
Number of Contact Rows: 2  
Number of Contacts: 20 , 26 , 36 , 40 , 50 , 68  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Electronic Devices, Wiremount  
Shell Material: Steel  
Shell Plating: Nickel  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0425  
Termination Method: IDC  
eClass 14 Classification Group: 27440307

# 3M™ Shielded Compact Ribbon (SCR) Connectors 36110-2220XX

3M ID B00037025 UPC 04548623986647

## Details

Robust ribbon style contact for reliable, repetitive plugging  
Body tabs provide lateral support to solder joints and helps enable grounding  
Upright orientation conserves PCB real estate  
360° shielding for excellent EMI protection  
10 contacts can carry

## Typical properties

Connector Style: Plug  
Factory ISO Certification: No ISO Certification information available  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 10  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Product Color: Silver  
Tech Sheet Number: TS-2223  
eClass 14 Classification Group: 27460201

# **3M™ Shielded Compact Ribbon (SCR) Connectors Shell Kit 36310-F200-008**

3M ID B00037046

## **Details**

Complete Shell Kit for 3M™ Shielded Compact Ribbon (SCR) Wiremount Plug (TS-2225)

360° shielding for excellent EMI protection

Integrated strain relieving cable clamp

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compli

## **Typical properties**

Tech Sheet Number: TS-2226

eClass 14 Classification Group: 27440213

## **3M™ D Sub EMI Junction Shell, 3357-62XX-1C**

3M ID B00037100 UPC 00051111645192

### **Details**

Protection from EMI/ESD  
Easy assembly reduces time and labor for low cost  
Light weight and a compact design  
Strain Relief compensates for multiple cable diameters  
Jack screws provide positive retention  
RoHS compliant  
For more information refer to Da

### **Typical properties**

Compatible Cable Shape: Round  
Compatible Number of Contacts: 9 , 15 , 37  
Factory ISO Certification: No ISO Certification information available  
For Use With: D Sub Connectors  
Number of Cable Entries: 1  
Product Color: Silver  
Product Type: Junction Shell  
Tech Sheet Number: TS-2132  
eClass 14 Classification Group: 27440213

# **3M™ SlimLine Twin Axial Cable Assembly, SFF-8654, 8ES8, x8, 85ohm, 31AWG**

3M ID B5000000277

## **Details**

- x8 configuration
- SFF-8654 straight and right angle
- Signal wire size 31 AWG
- Standard lengths 0.5 m, 0.75 m, and 1 m
- PCIe (85 ohm) applications
- Custom folded assemblies available
- Thin ribbon cable construction allows for dense routing, routing options

## **Typical properties**

- Application: High-speed Data Transmission
- Characteristic Impedance: 85 ohms
- Connector Style (End A): Plug
- Connector Style (End B): Plug
- Connector Type (End A): ST
- Connector Type (End B): ST
- Form Factor: SlimLine
- Number of Cable Assembly Lanes: x8
- Number of Conductors: 72
- Product Series: 8ES8
- Product Usage: Backplane/Midplane, Board-to-board, Mid-board Cables
- Protocol: PCIe©
- Standard Size: 0.75 m, 1.0 m, 0.5 m
- Tech Sheet Number: TS-2675
- Wire Gauge (Imperial): 31 AWG
- eClass 14 Classification Group: 19051003

# 3M™ Novec™ 7300 Engineered Fluid

## Details

Non-flammable  
Zero Ozone Depletion Potential (ODP)  
Low toxicity  
Excellent materials compatibility  
Low Global Warming Potential (GWP)  
VOC-exempt solvent (US EPA)  
Clear, colorless, odorless fluid

## Typical properties

Application: Electronic Cooling, Heat Transfer, Immersion Cooling for Data Centers, Precision Cleaning, Solvent Cleaning  
Boiling Point (Celsius): 98 °C  
Boiling Point (Fahrenheit): 208 °F  
Boiling Point Range: 50 °C - 99 °C  
Brands: Novec™  
Cleaning Strength: Light Duty  
Compatibility: ABS/Polycarbonate, Aluminum, Copper, EPDM Rubber, Monel, Natural Rubber, Nickel, PMMA, Polyethylene, Polypropylene, Polyurethane, Stainless Steel  
Density: 1.66 g/cm<sup>3</sup>  
Dielectric Strength Range: >25 kV  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: High  
GWP (IPCC 2007): 210 (100 yr ITH)  
GWP Range: Low  
Hydrocarbon Solubility: Medium  
Maximum Use Temperature (Celsius): 98 °C  
Maximum Use Temperature (Fahrenheit): 208.4 °F  
Net Weight (Imperial): 12 lb, 33 lb, 600 lb  
Net Weight (Metric): 5.44 kg, 14.97 kg, 272.15 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -38 °C  
Pour Point (Fahrenheit): -36 °F  
Product Series: Novec 7300  
Purity Grade: Standard  
Replacement For: HCFCs  
Volume (Imperial): 1 gal, 3.25 gal, 55 gal  
Volume (Metric): 3.79 L, 12.3 L, 208.2 L

## Dimensions and Classifications

Overall Height (Imperial): 9.63 in, 17 in, 35 in  
Overall Height (Metric): 24.46 cm, 43.18 cm, 88.9 cm  
Overall Length (Imperial): 9.56 in, 11.44 in, 23.5 in  
Overall Length (Metric): 24.29 cm, 29.06 cm, 59.69 cm  
Overall Width (Imperial): 9.56 in, 11.44 in, 23.5 in

# 3M™ Novec™ 1720 Electronic Grade Coating

## Details

Easy application and processing - air dries in seconds and should be thermally cured for best performance  
Adheres to a variety of surfaces including glass, metals and metal oxides  
Provides excellent anti-wetting, anti-stiction and anti-migration propert

## Typical properties

Application: Protecting, Smudge Resistance  
Application Method: Brush, Dip, Selective Dispense, Spray  
Brands: Novec™  
Coating Location: Device Screens, Glass Surfaces  
Coating Thickness Range (Metric): 5 nm - 10 µm, <10 nm  
Factory ISO Certification: No ISO Certification information available  
Net Weight (Imperial): 0.18 lb, 12 lb, 40 lb  
Net Weight (Metric): 5.4 kg, 18.1 kg, 81 g  
Polymer Type: Fluorosilane  
Product Series: Novec 1720  
Removability: Not Removable  
Specifications Met: RoHS 2011/65/EU  
UV Detectable: No  
Volume (Imperial): 1 gal, 2 fl oz, 3.5 gal  
Volume (Metric): 3.8 L, 15.911 L, 59.147 mL  
eClass 14 Classification Group: 27400113

## 3M™ Novec™ 8200 Engineered Fluid

### Details

Zero ozone depletion potential  
Low global warming potential (GWP)  
Is not a volatile organic compound (VOC)  
Is listed as a Clean Air Solvent by California's South Coast Air Quality Management District (SCAQMD)

### Typical properties

Application: Movie Film Cleaning  
Boiling Point (Celsius): 76 °C  
Boiling Point (Fahrenheit): 169 °F  
Brands: Novec™  
Cleaning Strength: Light Duty  
Dielectric Strength Range: 20 - 35 kV  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: High  
GWP (IPCC 2007): 59 (100 yr ITH)  
GWP Range: Very Low  
Hydrocarbon Solubility: Medium  
Net Weight (Imperial): 60 lb, 360 lb  
Net Weight (Metric): 27.22 kg, 163.29 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -138 °C  
Pour Point (Fahrenheit): -216 °F  
Product Series: Novec 8200  
Replacement For: 1,1,1-trichloroethane, Perchloroethylene  
Volume (Imperial): 5 gal, 30 gal  
Volume (Metric): 18.93 L, 113.56 L  
eClass 14 Classification Group: 23060490



## 3M™ Tripolarized Wiremount Socket 820 Series

3M Product Number 820 Series 3M ID B00038732 UPC 50054007760295

### Details

.050 in. X .100 in. connector size for compact design and space-saving installation  
Beryllium copper alloy contacts for excellent strength and reliable performance  
Tripolarization feature helps prevent damage when mating to 3M™ 4-Wall Tripolarized Heade

### Typical properties

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Contact Base Material: Beryllium Copper  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin - 150 µin  
Contact Underplating Thickness (Metric): 1.27 µm - 3.81 µm  
Current Rating: 0.75 A  
Factory ISO Certification: No ISO Certification information available  
Features: Feed Through, Strain Relief  
Insulation Color: Gray  
Insulation Material: Glass Filled Polyester (PBT)  
Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 500 VDC  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Maximum Conductor Size (Imperial): 30 AWG (Solid), 30 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Conductor Size (Imperial): 30 AWG (Solid), 30 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 20 , 26 , 40 , 68 , 80  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Series: 820  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0254  
Termination Method: IDC  
Withstanding Voltage: 500 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

## **3M™ Round Shielded/Jacketed Flat Cable, 3896 Series**

3M Product Number 3896 Series 3M ID B00039387 UPC 00021200000881

### **Details**

30 AWG wire on .025 inch centers permits mass termination  
Continuous split/bond allows for mass termination on 2.4 inch centers (approximate)  
Primary cable is zippable for branching or discrete terminations  
Round construction helps make routing efficient

### **Typical properties**

Application: Signal Integrity  
Factory ISO Certification: No ISO Certification information available  
Halogen Free: No  
Insulation Color: Gray  
Insulation Material: PVC  
Jacket Color: Black  
Jacket Material: PVC  
Number of Conductors: 20 , 26 , 30 , 32 , 34 , 40 , 50 , 52 , 60 , 68 , 80 , 100  
Number of Strands: 7  
Pitch (Imperial): 0.025 in  
Pitch (Metric): 0.64 mm  
Specifications Met: VW-1  
Tech Sheet Number: TS-2173  
Wire Size: 30 AWG  
eClass 14 Classification Group: 27060106

## **3M™ Color Coded Flat Cable, 3302 Series**

3M Product Number 3302 Series 3M ID B00039599 UPC 00054007544128

### **Details**

Color-coded flat cable for easy identification and organization  
.050 in. size 28 AWG stranded wire for flexibility and durability  
PVC insulation for protection against environmental factors  
Size 28 AWG wire for efficient signal transmission  
Color-code

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Multi-color  
Insulation Material: PVC  
Number of Conductors: 8 , 9 , 10 , 12 , 14 , 15 , 16 , 18 , 20 , 24 , 25 , 26 , 28 , 30 , 34 , 36 , 37 , 40 , 50 , 60 , 64  
Number of Strands: 7  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Specifications Met: RoHS 2011/65/EU  
Tech Sheet Number: TS-0123  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft, 300 ft  
Overall Length (Metric): 30.48 m, 91.44 m

## **3M™ Jacketed, Flat Cable, .050", 3603 Series**

3M Product Number 3603 Series 3M ID B00039640 UPC 00051111526699

### **Details**

Flat cable design for easy installation and routing  
PVC jacket protects cable, adding durability  
Flat design allows for efficient use of space  
Size 28 AWG stranded wire for maximum flexibility  
PVC jacket provides resistance to abrasion and chemicals

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Gray  
Insulation Material: PVC  
Jacket Color: Black  
Jacket Material: PVC  
Number of Conductors: 10 , 14 , 16 , 20 , 26 , 34 , 36 , 37 , 40 , 50 , 60  
Number of Strands: 7  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Tech Sheet Number: TS-0060  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27060106

## **3M™ Pleated Foil Shielded Cable, 90204 Series**

3M ID B00039655 UPC 00051111731659

### **Details**

Can be used with IDC mass termination connectors

Can be used in applications requiring standard impedance of 100  $\Omega$  balanced (differential)

Perfect for board-to-board applications within electronic equipment, TPE covering prevents pleated copper foil from

### **Typical properties**

Application: Signal Integrity

Cable Type: Shielded, Stranded

Factory ISO Certification: No ISO Certification information available

Insulation Color: Translucent White

Insulation Material: TPE

Jacket Color: Gray

Jacket Material: TPE

Number of Conductors: 10 , 15 , 20 , 25 , 26 , 34 , 40 , 50

Number of Strands: 7

Pitch (Imperial): 0.05 in

Pitch (Metric): 1.27 mm

Tech Sheet Number: TS-0403

Wire Size: 28 AWG

eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft

Overall Length (Metric): 30.48 m

## **3M™ Shielded/Jacketed, Flat Cable 1785 Series**

3M Product Number 1785 Series 3M ID B00039714 UPC 00051111526149

### **Details**

Expanded copper shielding provides easier termination vs. aluminum/mylar shielding  
360 degree expanded copper shielding delivers 20 db average shielding effectiveness  
Twist and flat repeat has variable length options  
28 AWG wire with .050 pitch centers

### **Typical properties**

Application: Crosstalk Reduction, Mass Termination, Noise Immunity  
Factory ISO Certification: No ISO Certification information available  
Features: Chemical Resistance  
Insulation Color: Multi-color  
Insulation Material: PVC  
Number of Conductors: 10 , 16 , 20 , 26 , 34 , 36 , 40 , 50 , 60 , 64  
Number of Pairs: 5 , 8 , 10 , 13 , 17 , 18 , 20 , 25 , 30 , 32  
Number of Strands: 7  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Amplifiers, Balanced Drive Mechanisms, Box-to-box, Cameras, Controllers, Sensors  
Specifications Met: RoHS 2011/65/EU  
Tech Sheet Number: TS-0308  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27061801

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft  
Overall Length (Metric): 30.48 m

## 3M™ CF Card Header, 7E50 Series

3M ID B5005034000 UPC 00051111662663

### Details

Headers mate with both CompactFlash™ Type I and Type II cards  
Polarization options for top or bottom boardmount  
Extended guide rails enable accurate and easy card insertion  
Single row surface mount solder tails facilitate auto placement and IR solderin

### Typical properties

Card Standard: CompactFlash®  
Card Type: Type I/II  
Connector Style: Plug  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Card Guide  
Insertion/Removal Method: Push-in/Pull-out  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 15 µin, 30 µin  
Mating Contact Finish Thickness (Metric): 0.381 µm, 0.76 µm, <0.25 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 0 , 2  
Number of Contacts: 50  
Packaged Form: Tape & Reel, Tray  
Product Color: Beige  
Product Series: N7E50  
Tech Sheet Number: TS-2082  
Withstanding Voltage: 500 VAC for 1 min  
eClass 14 Classification Group: 27440211

# **3M™ Serial Attached SCSI (SAS) Connector, SBR-RA-29-S-ML, SBR Series**

3M ID B5005034004

## **Details**

6.0 gbps input/output connector for backplane applications  
Two contact mating levels for early-mate and late-break allows "blind mating" or "hot swap" applications  
Capable of accepting HDD fitted with SAS or Serial Advanced Technology Attachment (SATA)

## **Typical properties**

Tech Sheet Number: TS-2180  
eClass 14 Classification Group: 27440307



# **3M™ Twin Axial Cable, SL8801/11 Series, 5 Pair, 2 Drains, 1 Sideband in Center**

3M ID B5005035054 UPC 30051115601645

## **Details**

Internal cable construction is thin  
Lower profile than other similar AWG twin axial cables  
Allows for dense routing, more routing options within a case  
Ribbon construction  
Handle four pairs simultaneously during termination, identical channel lengths

## **Typical properties**

Conductor Material: Copper  
Factory ISO Certification: No ISO Certification information available  
Impedance: 95  $\Omega$   
Insulation Color: Silver  
Insulation Material: Polyolefin  
Number of Conductors: 10  
Number of Pairs: 5  
Pitch (Imperial): 0.093 in  
Pitch (Metric): 2.37 mm  
Product Series: SL8801  
Tech Sheet Number: TS-2462  
Wire Size: 30 AWG  
eClass 14 Classification Group: 19051003

# **3M™ Mini Delta Ribbon (MDR) Cable Assembly .050", 14536-SZ6B-XXX-0HC Series**

3M ID B5005032000

## **Details**

10 shielded pairs, 1 USB pair, plus 6 individual wires

The solution for LVDS applications

Each differential pair is shielded with foil; entire cable bundle is shielded with foil and braid

Rugged MDR ribbon type contact

Quick release latches

For more

## **Typical properties**

Current Rating: 1.0 A

Jacket Material: PVC

Number of Positions: 36

Shell Material: ABS

Specifications Met: AWM VW-1

Tech Sheet Number: TS-0994

eClass 14 Classification Group: 27060304

# 3M™ Thermally Conductive Silicone Interface Pad 5300-SP

3M ID B5005035141

## Details

- Single layer of silicone on polyimide carrier
- No surface tack
- Excellent heat stability
- Various thickness availability
- Dust Free (No contamination)
- High mechanical properties (high tear strength)
- High restoration force and no surface tack
- Excellent

# 3M™ Lapping Film 262X, Sheets and Rolls

## Details

Tight particle distribution  
Softer resin than other aluminum oxide products  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## Typical properties

Abrasive Material: Aluminum Oxide  
Application: Buffing, Finishing, Flat Lapping, Polishing, Superfinishing  
Attachment Type: Plain Back  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 1 µm  
Polishing Process: Step 2b: Refine/Level Connector (Ceramic Connector)  
Product Form: Roll, Sheet  
Product Series: 262X  
Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Hard Disc Drive Lubers, Media Heads, Optical  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## Dimensions and Classifications

Overall Length (Imperial): 11 in, 600 ft  
Overall Length (Metric): 182.88 m, 279.4 mm  
Overall Width (Imperial): 3 in, 8.5 in  
Overall Width (Metric): 76.2 mm, 215.9 mm

## **3M™ Diamond Pad Conditioner Ring**

### **Details**

Helps to reduce the number of maintenance shutdowns, increasing the potential for lower cost of ownership

Optimized for extended pad and disc life

Diamonds secured with both chemical and mechanical bonds for great retention

Controlled diamond placement

### **Typical properties**

Abrasive Material: Nickel-based Alloy with Patterned Diamond

Abrasive Working Surface: Segmented

Application: CMP, Wafer Manufacturing

CMP Process: Cu (Bulk), PMD/ILD, W (Bulk)

Carrier Diameter (Imperial): 10.236 in, 14.173 in

Carrier Diameter (Metric): 260 mm, 360 mm

Carrier Form: Ring

Carrier Material: 304 Stainless Steel

Diamond Size: 181 micron, 250 micron, 251 micron

Factory ISO Certification: No ISO Certification information available

Product Series: E187, E221, E3910, E3920, E3921

Product Type: Diamond Pad Conditioner

# 3M™ Bumpon™ Protective Products SJ5007

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Notebook Computer Non-Skid Feet, Small Kitchen Appliance Feet - Recessed Application  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Base Width: 0.413 in  
Base Width (Metric): 10.4 mm  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 2.0 - 2.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, White  
Product Form: Molded  
Product Series: SJ5007  
Product Type: Bumper  
Shape: Square-Tapered w/ Flat Top  
Width-Diameter Range: 0.400 - 0.499 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.098 in, 0.1 in  
Overall Height (Metric): 2.5 mm  
Overall Length (Imperial): 0.41 in, 0.413 in  
Overall Length (Metric): 10.4 mm  
Overall Width (Imperial): 0.098 in, 0.41 in  
Overall Width (Metric): 2.5 mm, 10.4 mm

## **3M™ Bumpon™ Protective Products SJ5382**

### **Details**

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

### **Typical properties**

Adhesive Type: Acrylic (A20), Synthetic Rubber (R25)  
Application: Small Electronic Device Feet, Small Kitchen Appliance Feet  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.001 - 0.099 in  
Height-Thickness Range (Metric): 1.0 - 1.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ5382  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.200 - 0.299 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

### **Dimensions and Classifications**

Overall Diameter (Imperial): 0.25 in  
Overall Diameter (Metric): 6.4 mm  
Overall Height (Imperial): 0.075 in  
Overall Height (Metric): 1.9 mm  
Overall Length (Imperial): 0.25 in  
Overall Length (Metric): 6.35 mm  
Overall Width (Imperial): 0.075 in  
Overall Width (Metric): 1.9 mm

# 3M™ Bumpon™ Resilient Rollstock SJ5832

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Cushioning Spacer, Cushioning Stop, Gasketing, Notebook  
Computer Non-Skid Feet, Protective Non-Skid Feet, Surface Protection, Surface  
Protection for Sub-Assembly Racks  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.001 - 0.099 in  
Height-Thickness Range (Metric): 0.1 - .99 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Brown, White  
Product Form: Rollstock  
Product Series: SJ5832  
Product Type: Rollstock  
Roll Width (Imperial): 4.5 in, 9 in  
Roll Width (Metric): 114 mm, 229 mm  
Shape: Rollstock  
Width-Diameter Range: 4.00 - 4.99 in, 9.00 - 9.99 in  
Width-Diameter Range (Metric): 100.0 - 199.9 mm, 200.0 - 299.0 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Length (Imperial): 72 yd  
Overall Length (Metric): 65.83 m, 65.84 m  
Overall Thickness (Imperial): 0.031 in, 0.032 in  
Overall Thickness (Metric): 0.8 mm  
Overall Width (Imperial): 4.5 in, 9 in  
Overall Width (Metric): 11.43 cm, 22.86 cm



# 3M™ Bumpon™ Resilient Rollstock SJ6208

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Cushioning Spacer, Cushioning Stop, Gasketing, Sunroof/Moon roof  
Cushioning Spacer  
Availability: Make to Order  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Rollstock  
Product Series: SJ6208  
Product Type: Rollstock  
Roll Width (Imperial): 4.5 in, 9 in  
Roll Width (Metric): 114 mm, 229 mm  
Shape: Rollstock  
Width-Diameter Range: 4.00 - 4.99 in, 9.00 - 9.99 in  
Width-Diameter Range (Metric): 100.0 - 199.9 mm, 200.0 - 299.0 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Length (Imperial): 36 yd  
Overall Length (Metric): 32.91 m, 33 m  
Overall Thickness (Imperial): 0.125 in  
Overall Thickness (Metric): 3.2 mm  
Overall Width (Imperial): 4.5 in  
Overall Width (Metric): 11.43 cm

# 3M™ Bumpon™ Protective Products SJ5370 Clear, 3000/Case

3M ID 7010382558 UPC 00021200305566

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.001 - 0.099 in  
Height-Thickness Range (Metric): 1.0 - 1.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ5370  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.312 in  
Overall Diameter (Metric): 7.9 mm  
Overall Height (Imperial): 0.05 in  
Overall Height (Metric): 1.3 mm  
Overall Length (Imperial): 0.307 in  
Overall Length (Metric): 7.8 mm  
Overall Width (Imperial): 0.049 in  
Overall Width (Metric): 1.24 mm

# 3M™ Bumpon™ Protective Products SJ5508

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Small Electronic Device Feet, Small Kitchen Appliance Feet  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Base Width: 0.500 in  
Base Width (Metric): 12.7 mm  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Brown, Gray, White  
Product Form: Molded  
Product Series: SJ5508  
Product Type: Bumper  
Shape: Square-Tapered w/ Flat Top  
Width-Diameter Range: 0.500 - 0.599 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.12 in  
Overall Height (Metric): 3.1 mm  
Overall Length (Imperial): 0.5 in  
Overall Length (Metric): 12.7 mm  
Overall Width (Imperial): 0.12 in  
Overall Width (Metric): 3 mm

# **3M™ Thermally Conductive Adhesive Tape 8910-03**

3M ID B5005036073

## **Details**

Halogen free acrylic backing

Double sided adhesive transfer tape

Flame retardant

Does not require heat cure cycle to form bond to substrate

# **3M™ Thermally Conductive Tape 9890, 1 in x 36 yds, 10.0 mil, 9/Case, Bulk**

3M ID 7010312307 UPC 00021200243516

## **Details**

- High mechanical strength
- Improved surface wet-out for rough surface
- Excellent shock performance
- Wider and longer roll is available
- Halogen free
- Ideal for thin bonding applications
- Good thermal transfer

## **Typical properties**

- Adhesive Type: Acrylic
- Brands: 3M™
- Factory ISO Certification: No ISO Certification information available
- Total Tape Thickness without Liner (Imperial): 10 mil
- Total Tape Thickness without Liner (Metric): 0.25 mm

## **Dimensions and Classifications**

- Overall Length (Imperial): 36 yd
- Overall Length (Metric): 32.92 m
- Overall Width (Imperial): 1 in
- Overall Width (Metric): 25.4 mm

# 3M™ High-Routability Internal HD MiniSAS Cable Assemblies, 8U Series

3M ID B00046081 UPC 00076308104191

## Details

HD miniSAS (SFF-8643) form factor provides double the density when compared to 36P miniSAS (SFF-8087)

Thin, low profile allows more routing options within a case, and enables many packaging configurations

Foldable ribbon construction allows for extreme

## Typical properties

Application: High-speed Data Transmission

Characteristic Impedance: 100 ohms

Connector Style (End A): Plug

Connector Style (End B): Plug

Connector Type (End A): ST

Connector Type (End B): ST

Factory ISO Certification: No ISO Certification information available

Form Factor: MiniSAS HD

Number of Cable Assembly Lanes: x4

Number of Conductors: 36

Product Series: 8U

Product Usage: Backplane/Midplane, Board-to-board, Mid-board Cables

Protocol: SAS, SATA

Standard Size: 0.75 m, 1.0 m, 0.5 m

Tech Sheet Number: TS-2555

Wire Gauge (Imperial): 30 AWG

eClass 14 Classification Group: 19051003

## Dimensions and Classifications

Overall Length (Imperial): 19.69 in, 39.37 in

Overall Length (Metric): 0.5 m, 1 m

## **3M™ D Ribbon Wiremount Socket, w/ Attached Bail, 3000 Series**

3M ID B00046115

### **Details**

- Integral bail lock reduces cost associated with packaging and handling
- Stamped metal face is smaller and lighter than cast metal
- Rear mount capability provides excellent grounding mechanism
- Uses existing locator plates
- RoHS compliant
- For more Informa

### **Typical properties**

- Tech Sheet Number: TS-0284
- eClass 14 Classification Group: 27440307

## **3M™ Boardmount Socket, 960 Series**

3M ID B00046631

### **Details**

High temperature dielectric

“No lead” wave and reflow solder compatible

Single- and dual row design, 4–36 pins or 8–72 pins

Mates with pin-strip header products

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance

### **Typical properties**

Application: Board-to-board Connecting

Tech Sheet Number: TS-2188

eClass 14 Classification Group: 27460201



## **3M™ Pin Strip Header, 929 Series**

3M ID B00046724

### **Details**

36 sizes (1 to 36 position)

Standard .025" square posts

.100" spacing between posts

Board pin retention feature available

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information

For more information refer

### **Typical properties**

Application: Board-to-board Connecting, Wire-to-board Connecting

Tech Sheet Number: TS-0539

eClass 14 Classification Group: 27460201

## **3M™ Through-Board Socket, 953 Series**

3M ID B00046739

### **Details**

- Maximizes use of PC board space
- High temperature dielectric
- No lead reflow solder compatible
- Dual row design, 6-60 pins
- Minimized PC Board stacking heights
- Mates with pin headers for board stacking applications
- See Regulatory Information Appendix (I

### **Typical properties**

Application: Board-to-board Connecting, Wire-to-board Connecting  
Tech Sheet Number: TS-2165  
eClass 14 Classification Group: 27460201

# **3M™ Twin Axial Cable, Jacketed, SL9000 Series, 4 Pair for MiniSAS or QSFP+**

3M ID B00050167

## **Details**

- Flat, foldable
- High bandwidth
- Mass processing and termination
- Low bend radius
- MiniSAS or QSFP+ assemblies
- SFF-8088 or SFF-8436
- CL-2

For more information, refer to Customer Drawing 78-5100-2404-1

## **Typical properties**

Tech Sheet Number: TS-2404  
eClass 14 Classification Group: 19051003

## **3M™ Normal DIN 41612 Header, 7064 Series**

3M ID B00050419

### **Details**

High density (64 position)

Accepts 3435-1 keying plug system

Solder tail options

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information

For more Information refer to Data Sheet TS0177 (TS-0177)

### **Typical properties**

Tech Sheet Number: TS-0177

eClass 14 Classification Group: 27460201

# **3M™ Ultra-Thin Water Contact Indicator Tape 5558**

3M ID B10056930

## **Details**

Film top layer is printable by thermal transfer, flexographic, and screen printing methods and offers improved ink receptivity

The film top layer also provides protection from soiling and moisture during handling

Paper backing is highly absorbent and tr

## 3M™ Low Profile Header, 303 Series

3M Product Number 303 Series 3M ID B10062127 UPC 00051111617762

### Details

- All-over gold flash
- Sturdy body
- End windows enable easy inspection and access
- Cost effective
- Straight or right-angle options provide flexibility
- Ejector/latch option not available
- Low-profile design saves space
- Thru-hole design helps ensure secure

### Typical properties

- Application: Wire-to-board Connecting
- Connector Shape: Rectangular
- Connector Style: Header, Plug
- Contact Base Material: Brass
- Current Rating: 1.0 A
- Factory ISO Certification: No ISO Certification information available
- Features: Keying Slot
- Insulation Color: Black
- Insulation Height (Imperial): 0.331 in, 0.366 in
- Insulation Height (Metric): 8.4 mm, 9.3 mm
- Insulation Material: Glass Filled Polyester (PBT)
- Latch/Ejector Type: Push-in/Pull-out
- Mating Contact Finish Material: Gold Flash
- Mating Contact Finish Thickness (Imperial): <10 µin
- Mating Contact Finish Thickness (Metric): <0.25 µm
- Mating Option: Board to Board, Board to Cable, Board to Wire
- Maximum Operating Temperature (Celsius): 105 °C
- Maximum Operating Temperature (Fahrenheit): 221 °F
- Minimum Operating Temperature (Celsius): -55 °C
- Minimum Operating Temperature (Fahrenheit): -67 °F
- Number of Contact Rows: 2
- Number of Contacts: 6 , 8 , 10 , 14 , 16 , 20 , 26 , 34 , 40 , 50
- PCB Mounting Angle: Right Angle
- PCB Mounting Style: Through Hole
- Pitch (Imperial): 0.1 in
- Pitch (Metric): 2.54 mm
- Post Contact Finish Material: Gold
- Product Series: 303
- Shroud Style: 4 Wall
- Specifications Met: UL 94V-0
- Tech Sheet Number: TS-0818
- Voltage Rating: 500 Vrms at Sea Level
- eClass 14 Classification Group: 27460201

## **3M™ Latch/Eject Header, 1552 Series**

3M Product Number 1552 Series 3M ID B30000114

### **Details**

14 pin counts ranging from 6-50 positions  
Latch/eject mechanism securely latches to socket  
Roll pins retain latches to body in shipping and high-vibration environments  
Ejector helps make unmating cable assemblies easier  
High-temperature insulators are

### **Typical properties**

Application: Wire-to-board Connecting  
Connector Style: Header  
Latch/Ejector Type: Latch Lock/Eject Hooks  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Product Series: 1552  
Tech Sheet Number: TS-2199  
eClass 14 Classification Group: 27460201

## 3M™ Pin Strip Header, 1512 Series

3M ID B30000134 UPC 00076308787684

### Details

- Industry standard compatible
- High temperature dielectric
- No lead wave and reflow solder compatible
- Unique lengths available
- Maximizes use of PC board space
- Mates with boardmount and wiremount products
- End stackable feature
- Side stackable feature

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### Typical properties

- Application: Wire-to-board Connecting
- Connector Shape: Rectangular
- Connector Style: Header
- Contact Base Material: Copper Alloy
- Current Rating: 1.0 A
- Factory ISO Certification: No ISO Certification information available
- Insulation Color: Black
- Insulation Height (Imperial): 0.6 in
- Insulation Height (Metric): 1.52 mm
- Insulation Material: Glass Filled Polyester (LCP)
- Latch/Ejector Type: Push-in/Pull-out
- Mating Contact Finish Material: Gold
- Mating Option: Board to Board, Board to Cable
- Maximum Operating Temperature (Celsius): 105 °C
- Maximum Operating Temperature (Fahrenheit): 221 °F
- Minimum Operating Temperature (Celsius): -55 °C
- Minimum Operating Temperature (Fahrenheit): -67 °F
- Number of Contact Rows: 2
- Number of Contacts: 4 , 44 , 50 , 80
- PCB Mounting Angle: Right Angle
- PCB Mounting Style: Through Hole
- Pitch (Imperial): 0.0787402 in, 0.079 in
- Pitch (Metric): 0.079 mm
- Post Contact Finish Material: Tin
- Product Series: 1512
- Shroud Style: Unshrouded
- Specifications Met: UL 94V-0
- Tech Sheet Number: TS-0808
- Voltage Rating: 500 Vrms at Sea Level
- eClass 14 Classification Group: 27460201



## **3M™ Shrunk Shroud Header, 929 Series**

3M ID B30000150

### **Details**

10 sizes (10 to 64 position)

Standard .025" posts

.100" spacing between posts

Shrunk shroud provides snug fit

Center slot polarization

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information

For more in

### **Typical properties**

Application: Board-to-board Connecting

Tech Sheet Number: TS-0549

eClass 14 Classification Group: 27460201

# **3M™ Polyethylene Tape 3K87**

3M ID B10081483

## **Details**

PE tape with high tack adhesive system  
Adhesion to steel is 350 g/in width

## **Typical properties**

Brands: 3M™

## **3M™ Trizact™ Polishing Pad HT-800-PC**

3M Product Number HT-800-PC 3M ID B5005067114

### **Details**

Effective lapping and polishing for ultra-hard substrates such as silicon carbide and ceramics

Improved total pad life time and reduced total thickness variation (TTV), high removal rate and better surface finish compared to the copper platen process

when

### **Typical properties**

Application: Finishing, Lapping, Polishing, Scratch Removal

Product Usage: Semiconductor Wafers, Ultra-hard Substrates

Substrate: Gallium Arsenide, Gallium Nitride, Lithium Tantalate, Sapphire, Silicon Aluminum, Silicon Carbide, Silicon Nitride

## **3M™ Textool™ ZIP Strip Sockets**

3M ID B5005086009 UPC 04547452859177

### **Details**

For single-in-line packages on .100" (2.54 mm) centers  
Can be used in sets of two or more to create a socket for non-standard leaded packages on 100" (2.54 mm) centers  
SIP pin counts from 10 through 36 leads  
Lever actuated zero insertion force mechanism

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Frame Style: ZIP Socket  
Number of Positions: 10 , 20 , 24 , 32  
PCB Mounting Style: Through Hole  
Product Color: Green  
Tech Sheet Number: TS-0362  
eClass 14 Classification Group: 27261708

## **3M™ Branch Mini-Clamp Link Connector, 38A Series**

3M ID B5005121020

### **Details**

Enables branching from main wire to branch wire in the field with no special equipment

Provides branching from main bus line to sensors via 3M Mini-Clamp Connector

Enables a simpler systems with direct-to-network connector with less cable and lower late

### **Typical properties**

Application: Wire Branching, Wire-to-wire Connecting

Brands: 3M™

Tech Sheet Number: TS-2697

eClass 14 Classification Group: 27460202

# **3M™ Lapping Film 462X, Discs**

3M ID B5005150015

## **Details**

Tight particle distribution  
Tougher resin system than 463X  
Not recommended for fiber optic MT connectors  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## **Typical properties**

Abrasive Material: Silicon Carbide  
Product Form: Disc  
Product Series: 462X

# 3M™ Thermally Conductive Interface Tape 8926 Series

## Details

- Good thermal conductivity ( $>1.5\text{W/m-K}$ )
- Excellent dielectric performance
- Low thermal impedance
- Good and reliable adhesion performance to Al and SS
- Vibration damping
- Can be used for heat management
- Can be used for general heat dissipation
- Can be used

## Typical properties

- Dielectric Strength: 15 kV/mm, 15 kV
- Factory ISO Certification: No ISO Certification information available
- Product Color: White
- Total Tape Thickness without Liner (Imperial): 0.315 in
- Total Tape Thickness without Liner (Metric): 8 mm

## Dimensions and Classifications

- Overall Length (Imperial): 43.74 yd, 43.75 yd
- Overall Length (Metric): 40 m
- Overall Width (Imperial): 23.62 in
- Overall Width (Metric): 600 mm
- Thermal Conductivity (Z Axis): 1.5 W/m-K

# 3M™ Novec™ 7200 Engineered Fluid

## Details

- Non-flammable
- Non-conductive
- Compatible with plastics
- Low toxicity
- Low Global Warming Potential (GWP)
- Zero ozone depletion potential
- VOC-exempt solvent (US EPA and CARB)
- Low surface tension penetrates tight spaces for improved cleaning
- Certified C

## Typical properties

Application: Aerosol Formulations, Cleaning, Data Center Cooling, Deposition Solvent, Heat Transfer, Immersion Cleaning, Lubricant Deposition, Precision Cleaning, Rinsing, Solvent Cleaning

Boiling Point (Celsius): 76 °C  
Boiling Point (Fahrenheit): 169 °F  
Boiling Point Range: 50 °C - 99 °C  
Brands: Novec™

Cleaning Strength: Light Duty  
Density: 1.43 g/cm<sup>3</sup>  
Dielectric Strength Range: >25 kV  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: High  
GWP (IPCC 2007): 59 (100 yr ITH)  
GWP Range: Very Low  
Hydrocarbon Solubility: Medium  
Maximum Use Temperature (Celsius): 150 °C  
Maximum Use Temperature (Fahrenheit): 302 °F  
Net Weight (Imperial): 12 lb, 33 lb, 600 lb  
Net Weight (Metric): 5.44 kg, 14.97 kg, 272.16 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -138 °C  
Pour Point (Fahrenheit): -216 °F  
Product Series: Novec 7200  
Replacement For: CFCs  
Volume (Imperial): 1 gal, 3.25 gal, 55 gal  
Volume (Metric): 3.79 L, 12.3 L, 208.2 L



# 3M™ Novec™ 7500 Engineered Fluid

## Details

Wide range of thermal management applications  
Wide liquid range  
Non-flammable  
Non-conductive  
Compatible with plastics  
Low toxicity  
Low Global Warming Potential (GWP)  
Zero ozone depletion potential  
VOC-exempt solvent (US EPA)

## Typical properties

Application: Aerosol Formulations, Deposition Solvent, Heat Transfer, Immersion Cooling for Data Centers, Lubricant Deposition, Semiconductor Cooling, Test Equipment  
Boiling Point (Celsius): 128 °C  
Boiling Point (Fahrenheit): 262 °F  
Boiling Point Range: 100 °C - 149 °C  
Brands: Novec™  
Cleaning Strength: Light Duty  
Density: 1.614 g/cm<sup>3</sup>  
Dielectric Strength Range: >25 kV  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: High  
GWP (IPCC 2007): 100 (100 yr ITH)  
GWP Range: Very Low  
Hydrocarbon Solubility: Medium  
Maximum Use Temperature (Celsius): 149 °C  
Maximum Use Temperature (Fahrenheit): 300.2 °F  
Net Weight (Imperial): 12 lb, 40 lb, 600 lb  
Net Weight (Metric): 5.44 kg, 18.14 kg, 272.15 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -100 °C  
Pour Point (Fahrenheit): -148 °F  
Product Series: Novec 7500  
Purity Grade: Standard  
Replacement For: PFCs  
Volume (Imperial): 1 gal, 3.25 gal, 55 gal  
Volume (Metric): 3.79 L, 12.3 L, 208.2 L

## Dimensions and Classifications

Overall Height (Imperial): 9.63 in, 17 in, 35 in  
Overall Height (Metric): 24.46 cm, 43.18 cm, 88.9 cm  
Overall Length (Imperial): 9.56 in, 11.44 in, 23.5 in  
Overall Length (Metric): 24.29 cm, 29.06 cm, 59.69 cm  
Overall Width (Imperial): 9.56 in, 11.44 in, 23.5 in

# 3M™ USB3 Vision Industrial Camera Cable Assembly 1U30A Series

3M Product Number 1U30A Series 3M ID B5005387001 UPC 04550309217099

## Details

Strong transmission > 7 m  
Flexible 6.2 mm outside diameter cable makes for easy routing  
Available locking screws provide added connection reliability  
Micro-B connector available in a variety of configurations for design flexibility  
USB3.0 and USB3 Vis

## Typical properties

Application: High-speed Connecting, High-speed Data Transmission  
Brands: 3M™  
Cable Length (Imperial): 3.281 ft, 9.843 ft, 16.404 ft, 32.808 ft  
Cable Length (Metric): 1 m, 3 m, 5 m, 10 m  
Cable Outside Diameter (Imperial): 0.244 in  
Cable Outside Diameter (Metric): 6.2 mm  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): USB Micro B  
Connector Type (End B): USB Standard A  
Factory ISO Certification: No ISO Certification information available  
Product Color: Black  
Product Series: 1U30A  
Product Usage: Cameras, Control Units  
Protocol: USB3 Vision  
Tech Sheet Number: TS-2772

# 3M™ Novec™ 1702 Electronic Grade Coating

## Details

Easy application and processing - dries in seconds without the need for thermal post-curing  
May require little or no masking  
Easily removed for rework & repair  
Contains no volatile organic compounds (VOCs) and has low global warming potential  
Is therm

## Typical properties

Application: Anti-stiction, Chemical Protection, Corrosion Protection, Moisture Protection, Protecting  
Application Method: Brush, Dip, Selective Dispense, Spray  
Brands: Novec™  
Coating Location: Electronic Device Components  
Coating Thickness Range (Metric): <100 nm  
Dielectric Constant: 3.2  
Dielectric Strength: 2000 V/mil  
Dissipation Factor: 0.002  
Factory ISO Certification: No ISO Certification information available  
Net Weight (Imperial): 2 oz, 12 lb  
Net Weight (Metric): 5.4 kg, 81 g  
Polymer Type: Fluoroacrylate  
Product Series: Novec 1702  
Removability: Removable with 3M™ Novec™ Engineered Fluid 7100, Removable with 3M™ Novec™ Engineered Fluid 72DA, Removable with 3M™ Novec™ Engineered Fluid 73DE  
Specifications Met: Directive (EU) 2015/863, RoHS 2011/65/EU  
Thermal Cure Time & Temperature: No Need to Cure  
UV Detectable: No  
Volume (Imperial): 2 fl oz  
Volume (Metric): 59.147 mL  
eClass 14 Classification Group: 27400113

# 3M™ Novec™ 7000 Engineered Fluid

## Details

Low Global Warming Potential  
Excellent dielectric properties  
Non-ozone depleting  
Low toxicity  
Non-flammable  
Non-corrosive  
Good thermal stability  
Useful at extreme low temperatures (to -120 Degree C)  
Will not damage electronic equipment in event of

## Typical properties

Application: Deposition Solvent, Heat Transfer, Immersion Cooling for Data Centers, Lubricant Deposition  
Boiling Point (Celsius): 34 °C  
Boiling Point (Fahrenheit): 93 °F  
Boiling Point Range: 0 °C - 49 °C  
Brands: Novec™  
Cleaning Strength: Light Duty  
Compatibility: Aluminum, Brass, Copper, Nylon, PEEK, PTFE, Polyacetyl, Polyethylene, Polypropylene, Stainless Steel  
Density: 1.4 g/cm<sup>3</sup>  
Dielectric Strength Range: >25 kV  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: Medium  
GWP (IPCC 2007): 420 (100 yr ITH)  
GWP Range: Low  
Hydrocarbon Solubility: Medium  
Net Weight (Imperial): 10 lb, 300 lb  
Net Weight (Metric): 4.54 kg, 136 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -122 °C  
Pour Point (Fahrenheit): -188 °F  
Product Series: Novec 7000  
Purity Grade: Standard  
Replacement For: HCFC-123  
Volume (Imperial): 1 gal, 30 gal  
Volume (Metric): 3.79 L, 113.56 L

## Dimensions and Classifications

Overall Height (Imperial): 17 in, 29 in  
Overall Height (Metric): 43.18 cm, 73.66 cm  
Overall Length (Imperial): 9.56 in, 18.3 in  
Overall Length (Metric): 24.29 cm, 46.48 cm  
Overall Width (Imperial): 9.56 in, 18.3 in  
Overall Width (Metric): 242.824 mm, 464.82 mm

## **3M™ Polycarbonate Carrier Tape 3002R 2D Barcode Series**

3M Product Number 3002R 3M ID B5005430003

### **Details**

For packaging and transporting thinner electrical and electronic devices with efficient track and trace capabilities  
High quality 2D barcodes included with each pocket of precision formed carrier tape  
Allows for ultra small pocket opening radius in thin

### **Typical properties**

Application: Electronic Component Packaging  
Material: Polycarbonate  
Product Color: Black  
Product Usage: Bare Die, Discrete Components, ICs, LEDs, Passive Components, WLCSP  
Surface Resistance:  $1.0 \times 10^4 \Omega$  -  $1.0 \times 10^8 \Omega$   
eClass 14 Classification Group: 27140708

## **3M™ Mini Stack Connector Junction Header 3S8 Series**

3M ID B5005447007 UPC 04550309281151

### **Details**

Compact design saves panel space and helps streamline hanging wires for space-saving cable extensions

Helps reduce board footprint by 30% compared to the 3M™ Mini-Clamp Connector Series

Available in panel mount or free hanging versions and a range of pi

### **Typical properties**

Application: Wire-to-wire Connecting

Connector Style: Pin Header

Factory ISO Certification: No ISO Certification information available

Number of Contacts: 12 , 16

Product Color: Black

Tech Sheet Number: TS-2778

Termination Method: Wiremount Socket

eClass 14 Classification Group: 27460202

## **3M™ Round Conductor Flat, LSHF Cable, HF447 Series**

3M Product Number HF447 Series 3M ID B5005027001 UPC 00051131122604

### **Details**

For mass termination and increased signal density  
Size 30 AWG solid conductors on .025 in. / 0.635 mm wire spacing  
Provides efficient connectivity  
Minimal interference during signal transmission  
Compact and space-saving design  
Ideal for high-density

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Features: Halogen-free  
Insulation Color: Dark Gray  
Insulation Material: LSHF EVA/Polyolefin  
Number of Conductors: 10 , 12 , 14 , 16 , 20 , 26 , 30 , 34 , 36 , 40 , 50 , 60 , 68 ,  
80 , 100  
Number of Strands: 1  
Pitch (Imperial): 0.025 in  
Pitch (Metric): 0.635 mm  
Tech Sheet Number: TS-2343  
Wire Size: 30 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft  
Overall Length (Metric): 30.48 m

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 248-5205-01

3M ID 7010318886 UPC 00051115602313

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2473-6

## Typical properties

- Brands: Textool™
- Factory ISO Certification: No ISO Certification information available
- Tech Sheet Number: TS-2473
- eClass 14 Classification Group: 27261708



## **3M™ Twin Axial Cable, SL8802/04 Series, 2 Pair, 2 Drains**

3M ID B5005035039 UPC 00051115605680

### **Details**

Flat, foldable

High Bandwidth

Mass processing and termination

Internal miniSAS HD - SFF 8436

See Regulatory Information Appendix link for chemical compliance information

For more information refer to Customer Drawing 78-5100-2400-9

### **Typical properties**

Conductor Material: Copper

Factory ISO Certification: No ISO Certification information available

Impedance: 100  $\Omega$

Insulation Color: Silver

Insulation Material: Polyolefin

Number of Conductors: 4

Number of Pairs: 2

Pitch (Imperial): 0.093 in

Pitch (Metric): 2.37 mm

Product Series: SL8802

Tech Sheet Number: TS-2400

Wire Size: 30 AWG

eClass 14 Classification Group: 19051003

## **3M™ Diamond Lapping Film 668X - Custom Sizes**

Part Number 668X 3M ID B5005035271

### **Details**

PSA-backed

Most widely used diamond lapping film

Fast cut, increased throughput

Flat surfaces and low edge rounding

Uniform finish

Long abrasive life minimizes abrasive changes

Available in rolls, discs and sheets

# 3M™ Wetordry™ Polishing Paper Sheet 281Q

## Details

- Use wet or dry
- Precision micron coated grading for a uniform, consistent finish
- Shortens hand sanding and buffing time
- Reduces finishing steps and saves time
- Color-coded micron grading for easy selection

## Typical properties

- Abrasive Material: Aluminum Oxide
- Application: Final Finishing, Finishing, Flat Lapping, Polishing, Refining, Repairing, Superfinishing
- Attachment Type: Plain Back
- Factory ISO Certification: No ISO Certification information available
- Micron Grade: 1 µm, 2 µm, 3 µm, 9 µm
- Product Form: Sheet
- Product Series: 281Q
- Product Usage: CDs/DVDs, Fiber Optic Connectors, Jewelry, PC
- Substrate: ABS, Fiberglass, Metal, PMMA, Plastic, Polyurethane, Precious Metal, Solid Surface Composite

## Dimensions and Classifications

- Overall Length (Imperial): 11 in
- Overall Length (Metric): 279.4 mm
- Overall Width (Imperial): 8.5 in
- Overall Width (Metric): 215.9 mm

# **3M™ Lapping Film 863X, 0.02 Micron Sheet, 6 in x 6 in, 50/Inner, 500/Case**

3M ID 7010307677 UPC 00051111562369

## **Details**

High Yield, increased throughput  
Consistent protrusion values  
Low insertion loss and back reflection  
Available in discs, sheets and rolls

## **Typical properties**

Abrasive Material: Silicon Dioxide  
Application: Final Polishing, Flat Lapping  
Attachment Type: Plain Back  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 0.02 µm  
Polishing Process: Step 3: Polish/Finish  
Product Form: Sheet  
Product Series: 863X  
Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Optical  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## **Dimensions and Classifications**

Overall Length (Imperial): 6 in  
Overall Length (Metric): 152.4 mm  
Overall Width (Imperial): 6 in  
Overall Width (Metric): 152.4 mm

## **3M™ Diamond Pad Conditioner**

### **Details**

Optimized for extended pad and disk life  
Longer pad and disk life helps customers reduce the number of maintenance shutdowns, increasing their potential for lower cost of ownership  
Diamonds secured with both chemical and mechanical bonds for great reten

### **Typical properties**

Abrasive Material: Nickel-based Alloy with Patterned Diamond  
Abrasive Working Surface: Full Face, Ring Face  
Application: Advanced Node (Memory & Logic), CMP, Hard Disk Drive Manufacturing, Wafer Manufacturing  
CMP Process: Cu (Barrier), Cu (Bulk), Final Buff, Hard Disk Drive Media Polishing, PMD/ILD, STI Process, W (Buff), W (Bulk)  
Carrier Diameter (Imperial): 3.74 in, 4 in, 4.25 in  
Carrier Diameter (Metric): 95 mm, 101.6 mm, 107.95 mm  
Carrier Form: Disc, Disc (Beveled Edge), Disc (Double-sided)  
Carrier Material: 304 Stainless Steel, 410 Stainless Steel, Polycarbonate  
Diamond Size: 63 micron, 74 micron, 90 micron, 151 micron, 181 micron, 251 micron  
Factory ISO Certification: No ISO Certification information available  
Product Series: A153L, A160, A165, A166, A188F, A188H, A189H, A189L, A270, A272, A2800, A2810, A2812, A2813, A2850, A3700, A3841, A63, A82, A98, C123, H80-AL, S122, S60, S82  
Product Type: Diamond Pad Conditioner

## 3M™ Pin Strip Header, 929 Series

3M ID B5005028016 UPC 00051111664636

### Details

Stackable  
Gold, Matte Sn, or Tin-Lead plating options  
High Temperature (PCT) plastic for Wave or IR soldering  
Solder stand-off for wave soldering  
Board pin retention feature available  
See Regulatory Information Appendix (last page of Tech Data Sheet)

### Typical properties

Application: Board-to-board Connecting, Wire-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Header, Pin Header, Plug  
Contact Base Material: Copper Alloy  
Contact Termination Area Plating Material: None  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin, 30 µin  
Contact Underplating Thickness (Metric): 0.76 µm, 1.27 µm  
Current Rating: 2.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Breakaway  
Insulation Color: Black  
Insulation Height (Imperial): 0.1 in, 0.11 in, 0.115 in, 0.215 in  
Insulation Height (Metric): 2.54 mm, 2.79 mm, 2.92 mm, 5.45 mm  
Insulation Material: Glass Filled Nylon, Glass Filled Polyester (PBT), Glass Filled Polyester (PBT) or High Temperature (PCT), PCT  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$ ,  $>5 \times 10^9 \Omega @ 500 \text{ VDC}$   
Latch/Ejector Type: Push-in/Pull-out  
Mating Contact Finish Material: Gold, Tin  
Mating Contact Finish Thickness (Imperial): 10 µin  
Mating Contact Finish Thickness (Metric): 0.25 µm  
Mating Option: Board to Board  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C, -40 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F, -40 °F  
Moisture Sensitivity Level: 1 (Per J-STD-020C) (PCT Insulator Version Only)  
Mounting Option: Mounting Flanges - 4-40 Threaded  
Number of Contact Rows: 1, 2  
Number of Contacts: 2, 3, 6, 7, 8, 12, 36, 72  
Orientation: Horizontal, Vertical  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 0.1 mm  
Post Contact Finish Material: Gold, Tin  
Product Series: 929

Shroud Style: Unshrouded  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-0769  
Voltage Rating: 1500 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

# 3M™ Bumpon™ Protective Products SJ5532

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Door Knob Stops  
Availability: Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.600 - 0.699 in  
Height-Thickness Range (Metric): 10.0 - 19.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Gray  
Product Form: Molded  
Product Series: SJ5532  
Product Type: Bumper  
Shape: Cylindrical with Concave Top  
Width-Diameter Range: 1.00 - 1.99 in  
Width-Diameter Range (Metric): 40.0 - 49.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 1.88 in  
Overall Diameter (Metric): 47.8 mm  
Overall Height (Imperial): 0.66 in  
Overall Height (Metric): 16.8 mm  
Overall Length (Imperial): 1.875 in  
Overall Length (Metric): 47.63 mm  
Overall Width (Imperial): 0.66 in  
Overall Width (Metric): 16.76 mm



# 3M™ Bumpon™ Resilient Rollstock SJ6005 Black A20FL, 4.5 in x 24 yds x 5 mm, 1/Case

3M ID 7000049344 UPC 00051115528491

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Cushioning Spacer, Cushioning Stop, Gasketing, Protective Non-Skid Feet, Surface Protection  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 5.0 - 5.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Rollstock  
Product Type: Rollstock  
Roll Width (Imperial): 4.5 in  
Roll Width (Metric): 114 mm  
Shape: Rollstock  
Width-Diameter Range: 4.00 - 4.99 in  
Width-Diameter Range (Metric): 100.0 - 199.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Length (Imperial): 24 yd  
Overall Length (Metric): 21.94 m  
Overall Thickness (Imperial): 0.2 in  
Overall Thickness (Metric): 5 mm  
Overall Width (Imperial): 4.5 in  
Overall Width (Metric): 11.43 cm

# 3M™ Bumpon™ Quiet Clear Protective Products SJ6506, 5000/Case

3M ID 7000002106 UPC 00021200457746

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Cushioning Spacer, Inside Door Frame Stops  
Availability: Stocked  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 56 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ6506  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.375 in  
Overall Diameter (Metric): 9.5 mm  
Overall Height (Imperial): 0.15 in  
Overall Height (Metric): 3.8 mm  
Overall Length (Imperial): 0.375 in  
Overall Length (Metric): 9.5 mm  
Overall Width (Imperial): 0.15 in  
Overall Width (Metric): 3.8 mm

# 3M™ Boardmount D-Sub Right Angle Socket Connector 887 Series

3M ID B5005537004 UPC 00068060597878

## Details

Available contact: 9, 15, 25 and 37 positions  
360° shielding for excellent EMI protection  
30µ" gold plating within contact area for a reliable connection  
RoHS compliant  
Mates with 3M™ D-Sub Plug 8200 Series  
Right angle socket

## Typical properties

Brands: 3M™  
Connector Style: Receptacle  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Number of Contacts: 9 , 15 , 25 , 37  
PCB Mounting Angle: Right Angle  
Tech Sheet Number: TS-2794  
Termination Method: Solder Tail

# 3M™ Bumpon™ Quiet Clear Protective Products SJ6561

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Cushioning Spacer, Custom, Inside Door Frame Stops  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 56 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ6561, SJ6561H  
Product Type: Bumper  
Shape: Hexagonal-Hemisphere  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.375 in  
Overall Diameter (Metric): 9.5 mm  
Overall Height (Imperial): 0.152 in  
Overall Height (Metric): 3.8 mm  
Overall Length (Imperial): 0.375 in  
Overall Length (Metric): 9.53 mm  
Overall Width (Imperial): 0.152 in  
Overall Width (Metric): 3.86 mm

# 3M™ Bumpon™ Protective Products MB1202-132 Clear, 2000/Case

3M ID 7010315847 UPC 00021200480782

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.500 - 0.599 in  
Height-Thickness Range (Metric): 10.0 - 19.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: MB1202-132  
Product Type: Bumper  
Shape: Circular-Cone  
Width-Diameter Range: 0.700 - 0.799 in  
Width-Diameter Range (Metric): 20.0 - 29.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.787 in  
Overall Diameter (Metric): 20 mm  
Overall Height (Imperial): 0.591 in  
Overall Height (Metric): 15 mm  
Overall Length (Imperial): 0.787 in  
Overall Length (Metric): 19.99 mm  
Overall Width (Imperial): 0.591 in  
Overall Width (Metric): 15.01 mm

# 3M™ Bumpon™ Protective Products SJ5782 Black, 3000/Case

3M ID 7010374870 UPC 00051115528309

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Small Electronic Device Feet, Small Kitchen Appliance Feet  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.001 - 0.099 in  
Height-Thickness Range (Metric): 1.0 - 1.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.200 - 0.299 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.25 in  
Overall Diameter (Metric): 6.4 mm  
Overall Height (Imperial): 0.075 in  
Overall Height (Metric): 1.9 mm  
Overall Length (Imperial): 0.25 in  
Overall Length (Metric): 6.35 mm  
Overall Width (Imperial): 0.075 in  
Overall Width (Metric): 1.9 mm

# 3M™ Bumpon™ Protective Products SJ6146 Black, 1000/Case

3M ID 7010296181 UPC 00021200493706

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Base Width: 0.906 in  
Base Width (Metric): 23.01 mm  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 6.0 - 6.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ6146  
Product Type: Bumper  
Shape: Square-Tapered w/ Flat Top  
Width-Diameter Range: 0.900 - 0.999 in  
Width-Diameter Range (Metric): 20.0 - 29.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.235 in  
Overall Height (Metric): 6 mm  
Overall Length (Imperial): 0.906 in  
Overall Length (Metric): 23.01 mm  
Overall Width (Imperial): 0.235 in  
Overall Width (Metric): 5.97 mm

# 3M™ Cable Assemblies for SFP+ Applications, Red or Blue Jacketed Versions

3M ID B5005034041

## Details

Adds efficiency to design of agile and scalable SFP+ applications  
Foldable, flexible twinax cable allows for more cable in less space, ideal for 10 Gbps SFP+ connections  
Red or blue jacketed cables provide simple port identification and network management

## Typical properties

Aggregate Data Rate: 10G  
Application: Networking  
Characteristic Impedance: 100 ohms  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): ST  
Connector Type (End B): ST  
Form Factor: SFP+  
Number of Cable Assembly Lanes: x1  
Number of Conductors: 4  
Product Series: 1412  
Product Usage: Switch  
Protocol: Ethernet  
Standard Size: 3.0 m, 2.0 m, 1.0 m  
Tech Sheet Number: TS-2649  
eClass 14 Classification Group: 19051003



## **3M™ MetPak™ HM Header, HM Series**

3M ID B5005032004

### **Details**

Modular/scalable format IEC 61076-4-101

Press-fit or solder tail version

63 mated lines per linear inch

Ships with protective cap, which also serves as an insertion tool

End-to-end stackable with 5 row 3M™ MetPak™ CP2, HM and HSHM products

See Regula

### **Typical properties**

Tech Sheet Number: TS-2007

eClass 14 Classification Group: 27460201

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 264-4205-00

3M ID 7010318881 UPC 00051115601866

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2460-3

## Typical properties

- Brands: Textool™
- Factory ISO Certification: No ISO Certification information available
- Tech Sheet Number: TS-2460
- eClass 14 Classification Group: 27261708

# 3M™ Diamond Lapping Film 676XY

## Details

- PSA-backed
- Fast cut
- Increased throughput
- Flatter surface finish and reduced edge rounding
- Uniform finish and consistent cut rate
- Long abrasive life reduces disc changes
- No lapping plate rework needed

## Typical properties

- Abrasive Material: Diamond
- Application: Finishing, Refining, Waveguide Edge Finishing
- Attachment Type: PSA Back
- Center Hole Diameter (Imperial): 8 in
- Center Hole Diameter (Metric): 203.2 mm
- Factory ISO Certification: No ISO Certification information available
- Micron Grade: 0.25  $\mu\text{m}$ , 1  $\mu\text{m}$
- Product Form: Disc
- Product Series: 676XY
- Product Usage: Hard Disc Drive Heads
- Substrate: Carbide, Ceramic, Composite, Exotic Alloy, Glass

## Dimensions and Classifications

- Overall Diameter (Imperial): 16 in
- Overall Diameter (Metric): 406.4 mm

## **3M™ Lapping Film 468X - Custom Sizes**

Part Number 468X 3M ID B5005035293

### **Details**

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## **3M™ Lapping Film 261X - Custom Sizes**

3M ID B5005035305

### **Details**

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls  
Get a uniform finish on a number of substrates

# 3M™ Pressure Sensitive Cover Tape 2698

3M ID B5005037045

## Details

Reworkable and bakeable

Adhesive zones help reduce the risk of adhesive contamination and contact with devices during shipping and storage

Highly recommended for components like WLCSP, LEDs and ultra-small and lightweight packages (e.g. 0603 mm and 0402)

## Typical properties

Adhesive Features: Pressure-sensitive

Product Usage: Discrete Components, ICs, LEDs, Passive Components, WLCSP

eClass 14 Classification Group: 27140708

# 3M™ Bumpon™ Protective Products SJ5303

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Dampen Noise/Reduce Vibration  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 5.0 - 5.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ5303  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.400 - 0.499 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.44 in  
Overall Diameter (Metric): 11.18 mm, 11.2 mm  
Overall Height (Imperial): 0.2 in  
Overall Height (Metric): 5.08 mm, 5.1 mm  
Overall Length (Imperial): 0.44 in  
Overall Length (Metric): 11.2 mm  
Overall Width (Imperial): 0.2 in  
Overall Width (Metric): 5.1 mm

# 3M™ Bumpon™ Protective Products SJ5378 Clear, 1500/Case

3M ID 7000052010 UPC 00021200242311

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ5378  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.400 - 0.499 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.4 in  
Overall Diameter (Metric): 10.2 mm  
Overall Height (Imperial): 0.13 in  
Overall Height (Metric): 3.3 mm  
Overall Length (Imperial): 0.4 in  
Overall Length (Metric): 10.16 mm  
Overall Width (Imperial): 0.13 in  
Overall Width (Metric): 3.3 mm



# 3M™ Bumpon™ Resilient Rollstock SJ5816

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Cushioning Spacer, Cushioning Stop, Gasketing, Notebook  
Computer Non-Skid Feet, Protective Non-Skid Feet, Surface Protection, Surface  
Protection for Sub-Assembly Racks  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.001 - 0.099 in  
Height-Thickness Range (Metric): 1.0 - 1.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, White  
Product Form: Rollstock  
Product Series: SJ5816  
Product Type: Rollstock  
Roll Width (Imperial): 4.5 in, 9 in  
Roll Width (Metric): 114 mm, 229 mm  
Shape: Rollstock  
Width-Diameter Range: 4.00 - 4.99 in, 9.00 - 9.99 in  
Width-Diameter Range (Metric): 100.0 - 199.9 mm, 200.0 - 299.0 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Length (Imperial): 36 yd, 72 yd  
Overall Length (Metric): 32.91 m, 66 m  
Overall Thickness (Imperial): 0.062 in, 0.063 in  
Overall Thickness (Metric): 1.6 mm  
Overall Width (Imperial): 4.5 in, 9 in  
Overall Width (Metric): 11.43 cm, 22.86 cm, 114.3 mm

# 3M™ Bumpon™ Protective Products SJ61A3 Black, 10,000/Case

3M ID 7000049252 UPC 00051115258107

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 6.0 - 6.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ61A3  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.375 in  
Overall Diameter (Metric): 9.53 mm  
Overall Height (Imperial): 0.25 in  
Overall Height (Metric): 6.35 mm

## **3M™ Cell Expansion Foam CEF-XXX (H2H-XXX)**

3M Product Number CEF-XXX (H2H-XXX) 3M ID B5005232003

### **Details**

- Customizable compression plateau for consistent battery pressure
- Minimal compression set for good durability
- Self-adhering properties reduces process steps to help improve assembly efficiency
- Easy liner release
- Flame retardant
- Easy to reposition during assembly

### **Typical properties**

- Application: Cushioning, Pressure Management
- Product Usage: EV Batteries

# 3M™ Trizact™ Composite Slurry DT-100

3M Product Number DT-100 3M ID B5005036186

## Details

Effective lapping and polishing for ultra-hard substrates such as silicon carbide and sapphire  
Improved total thickness variation (TTV), removal rates and surface finish compared to the copper platen process when used with 3M™ Trizact™ Polishing Pads  
Hi

## Typical properties

Application: Finishing, Lapping, Polishing, Scratch Removal  
Brands: Trizact™  
Product Usage: Semiconductor Wafers, Ultra-hard Substrates  
Substrate: Gallium Arsenide, Gallium Nitride, Lithium Tantalate, Sapphire, Silicon Aluminum, Silicon Carbide, Silicon Nitride

# 3M™ Bumpon™ Protective Products SJ5412 White, 3000/Case

3M ID 7000126186 UPC 00021200242281

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Cushioning Spacer, Cushioning Stop, Protective Non-Skid Feet, Surface Protection  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Pack Size: 3000/case  
Primary Liner: Translucent Polyester Film  
Product Color: White  
Product Form: Molded  
Product Series: SJ5412  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.500 - 0.599 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.5 in  
Overall Diameter (Metric): 12.7 mm  
Overall Height (Imperial): 0.14 in  
Overall Height (Metric): 3.6 mm  
Overall Length (Imperial): 0.5 in  
Overall Length (Metric): 12.7 mm  
Overall Width (Imperial): 0.14 in  
Overall Width (Metric): 3.6 mm

# 3M™ Bumpon™ Protective Products SJ6105 Black, 1000/Case

3M ID 7000126513 UPC 00021200995965

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Heavier Appliances/Electronic Device Feet - Anti-Skid  
Availability: Stocked  
Backing Material: Polyurethane  
Base Width: 1.28 in  
Base Width (Metric): 32.4 mm  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 6.0 - 6.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ6105  
Product Type: Bumper  
Shape: Square-Tapered w/ Flat Top  
Width-Diameter Range: 1.00 - 1.99 in  
Width-Diameter Range (Metric): 30.0 - 39.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.25 in  
Overall Height (Metric): 6.4 mm  
Overall Length (Imperial): 1.275 in  
Overall Length (Metric): 32.39 mm  
Overall Width (Imperial): 0.25 in  
Overall Width (Metric): 6.35 mm

# 3M™ Bumpon™ Protective Products SJ61B15 Black, 3000/Case

3M ID 7010411241 UPC 00021200497353

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Base Width: 0.295 in  
Base Width (Metric): 7.5 mm  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ61B15  
Product Type: Bumper  
Shape: Rectangular with Tapered Flat Top  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.118 in  
Overall Height (Metric): 3 mm  
Overall Length (Imperial): 0.295 in  
Overall Length (Metric): 7.49 mm  
Overall Width (Imperial): 0.118 in  
Overall Width (Metric): 3 mm

## **3M™ Low Profile I/O Twin Axial Cable Assembly**

3M ID B5005292000 UPC 08887862416666

### **Details**

8CS8 Series, x8 configuration  
Uses 3M™ Twin Axial Cable  
PCIe® 4.0 (85 ohm) applications  
Signal wire size 31 AWG (contact your local 3M sales representative for 30 AWG availability)  
Thinner than other similar AWG twin axial cables  
Thin ribbon cable co

### **Typical properties**

Application: High-speed Data Transmission  
Characteristic Impedance: 85 ohms  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): ST  
Connector Type (End B): ST  
Factory ISO Certification: No ISO Certification information available  
Form Factor: Low Profile I/O  
Number of Cable Assembly Lanes: x8  
Number of Conductors: 72  
Product Series: 8CS8  
Product Usage: Backplane/Midplane, Board-to-board, Mid-board Cables  
Protocol: PCIe©  
Standard Size: 0.75 m, 1.0 m, 0.5 m  
Tech Sheet Number: TS-2723  
Wire Gauge (Imperial): 31 AWG  
eClass 14 Classification Group: 19051003

### **Dimensions and Classifications**

Overall Length (Imperial): 19.69 in, 29.53 in, 39.37 in  
Overall Length (Metric): 0.5 m, 0.75 m, 1 m



## **3M™ Pin Strip Header .050" (1.27mm) 908 Series**

3M ID B5005489003 UPC 00051131129207

### **Details**

.050 spacing (1.27mm)  
6-50 position  
Available in through-hole contacts  
Ideal for industrial applications

### **Typical properties**

Contact Base Material: Copper Alloy  
Current Rating: 1.0 A  
Insulation Color: Black  
Insulation Material: Glass Filled Polyester (LCP)  
Number of Contact Rows: 2  
Number of Contacts: 40 , 60 , 80  
PCB Mounting Angle: Right Angle, Straight  
PCB Mounting Style: Surface Mount  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-2782  
eClass 14 Classification Group: 27460201

## **3M™ CoaXPress Cable Assembly 1CXx-xx-0G Series**

3M Product Number 1CXx-xx-0G Series 3M ID B5005505061 UPC 00068060596987

### **Details**

Excellent for high-performance repetitive motion applications  
Outstanding repeated bending durability >45 million cycles  
Functional cable length up to 10 m for CXP12, 13m for CXP6  
High-speed data transfer of up to 12.5 Gbps per channel (Micro-BNC, BNC)

### **Typical properties**

Application: High-flexibility Connecting, High-speed Connecting, High-speed Data Transmission

Brands: 3M™

Cable Length (Imperial): 9.843 ft, 13.123 ft, 16.404 ft, 19.685 ft, 22.966 ft, 26.247 ft, 29.528 ft, 32.808 ft, 36.089 ft

Cable Length (Metric): 3 m, 4 m, 5 m, 6 m, 7 m, 8 m, 9 m, 10 m, 11 m

Cable Outside Diameter (Imperial): 0.169 in

Cable Outside Diameter (Metric): 4.3 mm

Connector Style (End A): Plug

Connector Style (End B): Plug

Connector Type (End A): Micro-BNC

Connector Type (End B): Micro-BNC

Product Color: Black

Product Series: 1CXx-xx-0G

Product Usage: Cameras, Control Units, Frame Grabbers

Protocol: CoaXPress

Tech Sheet Number: TS-2783

## **3M™ Heat Resistive Polyimide Tape 7421**

3M Product Number 7421 3M ID B5005520002

### **Details**

Appropriate initial adhesion for molding processes

Thermally cross-linkable acrylic copolymer helps prevent unexpected adhesion build up after high-temperature processes

Provides clean surface on molding and metal substrates after tape removal

Low wett

# 3M™ Thermally Conductive Interface Tape 8711-125, 550 mm x 70 m

3M ID 7100227646 UPC 08806080072140

## Details

- Good thermal conductivity
- Excellent dielectric performance
- Low thermal impedance
- Strong adhesion performance against Al and SUS
- Vibration damping
- UL V-0 Certified

## Typical properties

- Application: Heat Transfer
- Brands: 3M™
- Dielectric Strength: 26 kV/mm
- Factory ISO Certification: No ISO Certification information available
- Product Color: White

## Dimensions and Classifications

- Overall Length (Imperial): 76.55 yd
- Overall Length (Metric): 70 m
- Overall Width (Imperial): 21.65 in
- Overall Width (Metric): 550 mm

# 3M™ Boardmount D-Sub Straight Plug Connector 884 Series

3M ID B5005537001 UPC 00068060597144

## Details

Available contact: 9, 15, 25 and 37 positions  
360° shielding for excellent EMI protection  
30µ" gold plating within contact area for a reliable connection  
RoHS compliant  
Mates with 3M™ D-Sub Socket 8300 Series  
Straight contact plug

## Typical properties

Brands: 3M™  
Connector Style: Plug  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Number of Contacts: 9 , 15 , 25 , 37  
PCB Mounting Angle: Straight  
Tech Sheet Number: TS-2790  
Termination Method: Solder Tail

# 3M™ Lapping Film 863X, Discs

## Details

High Yield, increased throughput  
Consistent protrusion values  
Low insertion loss and back reflection  
Available in discs, sheets and rolls

## Typical properties

Abrasive Material: Silicon Dioxide  
Attachment Type: Plain Back  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 0.02  $\mu\text{m}$   
Product Form: Disc

## Dimensions and Classifications

Overall Diameter (Imperial): 4.125 in, 5 in  
Overall Diameter (Metric): 104.775 mm, 127 mm

# **3M™ I/O Interconnect System 2.0 mm for IEEE 1394, 3E106 Series, 3E106-0220KV, 100 Ea/Case**

3M ID 7010354028 UPC 04548623140056

## **Details**

Robust ribbon style contact for reliable, repetitive plugging  
Body tabs provide lateral support to solder joints and help enable shield  
grounding  
Horizontal orientation for low profile applications  
360° shielding for excellent EMI protection  
Six conta

## **Typical properties**

Brands: 3M™  
Connector Style: Plug  
Contact Base Material: Copper Alloy  
Factory ISO Certification: No ISO Certification information available  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 6  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Product Color: Silver  
Tech Sheet Number: TS-2295  
eClass 14 Classification Group: 27460201

## **3M™ One Piece Branch Link Connector, 387 Series**

3M ID B5005121019

### **Details**

Enables branching from main wire to branch wire in the field with no special equipment

Available in a standard or splash-proof (IPX4) version

Easy, labor saving and reliable IDC termination

Single-action IDC termination connector for T-branching and sp

### **Typical properties**

Brands: 3M™

Tech Sheet Number: TS-2698

eClass 14 Classification Group: 27460202



# 3M™ Trizact™ Composite Slurry DE-100

3M Product Number DE-100 3M ID B5005276003

## Details

Effective lapping and polishing for ultra-hard substrates such as silicon carbide and ceramics

Reduced total thickness variation (TTV), higher removal rate and better surface finish compared to the copper platen process when used with 3M™ Trizact™ Polish

## Typical properties

Application: Finishing, Lapping, Polishing, Pre-CMP, Scratch Removal

Product Usage: Semiconductor Wafers, Ultra-hard Substrates

Substrate: Gallium Arsenide, Gallium Nitride, Lithium Tantalate, Sapphire, Silicon Aluminum, Silicon Carbide, Silicon Nitride

## 3M™ Mini Stack Connector Wiremount Socket 3S5 Series

3M Product Number 3S5 Series 3M ID B5005281005 UPC 04550309080334

### Details

Simple termination process helps save up to 60% wiring time compared to crimp-style connectors

Contacts are integrated into housings for simpler purchasing and handling

Eliminates wire stripping, saving time, reducing possibility of damage and minimizin

### Typical properties

Application: Wire-to-board Connecting, Wire-to-wire Connecting

Connection Type: IDC

Factory ISO Certification: No ISO Certification information available

Maximum Conductor Size (Imperial): 22 AWG, 25 AWG

Maximum Conductor Size (Metric): 0.19 mm<sup>2</sup>, 0.3 mm<sup>2</sup>

Minimum Conductor Size (Imperial): 24 AWG, 30 AWG

Minimum Conductor Size (Metric): 0.05 mm<sup>2</sup>, 0.2 mm<sup>2</sup>

Mounting Type: Wiremount

Number of Contact Rows: 1

Number of Contacts: 3 , 4

Pitch (Imperial): 0.12 in

Pitch (Metric): 3 mm

Product Color: Black, Gray

Tech Sheet Number: TS-2725

Termination Method: IDC

eClass 14 Classification Group: 27460202

# 3M™ Lapping Film Sheet 268X

## Details

Tight particle distribution  
Consistent cut rate, finish and life

## Typical properties

Abrasive Material: Aluminum Oxide  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 0.3  $\mu\text{m}$   
Product Form: Sheet

## Dimensions and Classifications

Overall Length (Imperial): 8 in, 11 in  
Overall Length (Metric): 203.2 mm, 279.4 mm  
Overall Width (Imperial): 3 in, 8.5 in  
Overall Width (Metric): 76.2 mm, 215.9 mm

# 3M™ Transparent Conductor Film Assembly

3M ID B5005373004

## Details

High transparency (>80% open area)  
Proprietary copper grid conductive layer  
Implemented in low-profile antennas achieving VSWR, PIM and gain requirements that are typical for non-transparent antennas  
High power capability (up to 50W)  
High efficiency (

## Typical properties

Application: CPE/Repeater Antennas, DAS, Fleet Management, Infrared Sensors, Inventory Management, Neutral Host, Public Safety, Small Cell  
Application Type: In-building Wireless, IoT, Outdoor Wireless

## **3M™ Trizact™ Pad Conditioner T Series**

### **Details**

Enabled by proprietary 3M microreplication technology  
Extended lifetime and more stable removal rate compared to legacy designs  
Higher pad wear rate to enable a more durable, lower-lifetime-cost solution  
Larger grain size for CVD diamond to enable stro

### **Typical properties**

Abrasive Material: CVD coated ceramic  
Abrasive Working Surface: B25-2910 Pattern, B6-1900 Pattern  
Application: Advanced Node (Memory & Logic), CMP, Wafer Manufacturing  
CMP Process: STI Process, W (Bulk)  
Carrier Diameter (Imperial): 4 in, 4.25 in  
Carrier Diameter (Metric): 101.6 mm, 107.95 mm  
Carrier Form: Disc  
Carrier Material: 304 Stainless Steel  
Factory ISO Certification: No ISO Certification information available  
Product Series: B25T-2910, B6-1900, B6T-1900, T  
Product Type: Diamond Pad Conditioner

## **3M™ Boardmount Socket .050" (1.27mm) 9X9 Series**

3M ID B5005489002 UPC 00051131129375

### **Details**

.050 spacing (1.27mm)

6-80 position

Available in surfacemount and through-hole contacts

Ideal for industrial applications

### **Typical properties**

Contact Base Material: Copper Alloy

Current Rating: 1.0 A

Insulation Color: Black

Insulation Material: Glass Filled Polyester (LCP)

Number of Contact Rows: 2

Number of Contacts: 6 , 8 , 10 , 16 , 20 , 26 , 30 , 40 , 50 , 80

PCB Mounting Angle: Straight

PCB Mounting Style: Surface Mount

Pitch (Imperial): 0.05 in

Pitch (Metric): 1.27 mm

Specifications Met: UL 94V-0

Tech Sheet Number: TS-2780

eClass 14 Classification Group: 27460201

## **3M™ Camera Link Industrial Camera Cable Assembly, SDR, 1Sx26-x1xx Series**

3M Product Number 1Sx26-x1xx 3M ID B5005510005 UPC 04547452533787

### **Details**

SDR-to-SDR assembly for camera-to-frame-grabber communications  
Camera side SDR plug connector is available in a variety of configurations for space savings and design flexibility  
Base-medium and full configurations are available  
Available in PoCL and n

### **Typical properties**

Application: High-flexibility Connecting, High-speed Connecting, High-speed Data Transmission  
Brands: 3M™  
Cable Length (Imperial): 1.804 ft, 3.281 ft, 6.562 ft, 9.843 ft, 13.123 ft, 16.404 ft, 22.966 ft, 32.808 ft  
Cable Length (Metric): 0.55 m, 1 m, 2 m, 3 m, 4 m, 5 m, 7 m, 10 m  
Cable Outside Diameter (Imperial): 0.272 in, 0.343 in, 0.354 in  
Cable Outside Diameter (Metric): 6.9 mm, 8.7 mm, 9 mm  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): SDR  
Connector Type (End B): SDR  
Factory ISO Certification: No ISO Certification information available  
Product Color: Beige, Black, Gray  
Product Series: 1Sx26-x1xx  
Product Usage: Cameras, Control Units, Frame Grabbers  
Protocol: CameraLink  
Tech Sheet Number: TS-2800

## **3M™ Novec™ 5110 Insulating Gas, 11.3 kg (25 lb), 1 Cylinder**

3M ID 7100154082 UPC 00051138992958

### **Details**

Fluoroketone designed with a lower global warming potential (GWP) is a sustainable alternative to sulfur hexafluoride (SF<sub>6</sub>)  
Achieve a potential reduction of 99% in GHG when used in gas mixtures in place of SF<sub>6</sub> in on-grid commercial equipment  
Non-flamma

### **Typical properties**

Application: Insulating Gas for Electrical Equipment  
Atmospheric Lifetime: 0.04 Year  
Boiling Point (Celsius): 26.9 °C  
Boiling Point (Fahrenheit): 80.42 °F  
Brands: Novec™  
Dielectric Strength Range: 18.4 kV  
Factory ISO Certification: No ISO Certification information available  
GWP (IPCC 2007): <1  
Net Weight (Imperial): 25 lb  
Net Weight (Metric): 11 kg  
Ozone Depletion Potential: 0  
Pour Point (Celsius): -108 °C  
Pour Point (Fahrenheit): -162 °F  
Product Series: Novec 5110  
Replacement For: SF<sub>6</sub>



## **3M™ Industrial M12 Wiremount Connector A-code 3N104 Series**

3M ID B00016062 UPC 04548623883618

### **Details**

Compact size; male connector: 45 mm

Solder termination for AWG 20 to 24 wire cable compatibility

IP68 protection

See Regulatory Information Appendix link for chemical compliance information

For more information refer to Customer Drawing 78-5100-2559-2

### **Typical properties**

Connector Style: Plug

Factory ISO Certification: No ISO Certification information available

Keyed: No

Mounting Type: Wiremount

Number of Contacts: 4 , 8

Tech Sheet Number: TS-2559

Termination Method: Solder Cup

eClass 14 Classification Group: 22560314

## **3M™ I/O Interconnect System 2.0 mm for IEEE 1394 3E306 Series**

3M ID B00018712 UPC 04548623752525

### **Details**

Complete shell kit for 3M 2.0 mm I/O Interconnect System for IEEE 1394 Wiremount Receptacle (TS-2296)  
Includes outer body, inner shell, cable clamp, screws and latches  
360° shielding for excellent EMI protection  
Quick release latch system for connectio

### **Typical properties**

Connector Style: None, Receptacle  
Factory ISO Certification: No ISO Certification information available  
Mounting Type: Wiremount  
Number of Contact Rows: 2  
Number of Contacts: 6  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Product Color: Black, Gray  
Tech Sheet Number: TS-2297  
eClass 14 Classification Group: 27460201

# **3M™ Flux Field Directional Materials EM80KM**

3M ID B00019846

## **Details**

High Permeability magnetic foil  
Approximately 80,000 permeability maximum  
Thin overall construction  
Black PET protection tape cover film  
Pressure sensitive acrylic adhesive  
Supplied on a removable liner for ease of handling

## **Typical properties**

Application: Magnetic Shielding  
Magnetic Permeability: 80000  
Number of Adhesive Sides: 1  
Product Usage: Cables, Flexible Printed Circuits, Printed Circuit Boards,  
Semiconductor Chips, Sensors

# **3M™ Round Conductor Round Cable for CC-Link/LT 79100 Series 79100-075-4ZLT, 200 m, Black, 1 ea/Case**

3M ID 7100149197 UPC 04548623208695

## **Details**

Designed for factory automation applications  
Conforms to CC-Link/LT  
Recommended for use with 3M™ Link Connectors  
18 AWG [0.75 mm<sup>2</sup>] conductor wire permits IDC termination  
RoHS Compliant. See Regulatory Information Appendix link for chemical compliance

## **Typical properties**

Brands: 3M™  
Conductor Material: Tinned Copper  
Factory ISO Certification: No ISO Certification information available  
Halogen Free: No  
Insulation Color: Multi-color  
Insulation Material: ETFE  
Jacket Color: Black  
Jacket Material: PVC  
Number of Conductors: 4  
Number of Strands: 7  
Tech Sheet Number: TS-2325  
Wire Size: 18 AWG  
eClass 14 Classification Group: 27061801

## **Dimensions and Classifications**

Overall Length (Imperial): 218.723 yd  
Overall Length (Metric): 200 m

## 3M™ MetPak™ 2-FB Socket, MP2 Series

3M ID B10407014 UPC 00051111470244

### Details

- End-to-end stackable
- Offset dual-beam contact minimizes insertion force
- Expanded pin counts
- Protective Push-Cap
- Monoblockable
- Press or heat stake peg
- 12 mm modular units
- Meets global IEC 61076-4-104 Futurebus+® standard
- See Regulatory Information

### Typical properties

- Connector Style: Receptacle
- Contact Base Material: Copper Alloy
- Current Rating: 1.5 A
- Factory ISO Certification: No ISO Certification information available
- Features: Board Guide, Board Lock, Cap, Spacer
- Flammability: UL 94V-0
- Insulation Color: Beige
- Insulation Material: High Temperature LCP
- Insulation Resistance: 10<sup>3</sup> MegaOhms
- Mating Contact Finish Material: Gold
- Mating Contact Finish Thickness (Imperial): 3 μin
- Mating Contact Finish Thickness (Metric): 0.076 μm
- Moisture Sensitivity Level: 1 (Per J-STD-020C)
- Mounting Type: Boardmount
- Number of Contact Rows: 4 , 5
- Number of Contacts: 24 , 30 , 120
- PCB Mounting Angle: Right Angle
- PCB Mounting Style: Through Hole
- Packaged Form: Bulk, Tube
- Physical Plating Property: 50 microinches [1.27 micrometers] Nickel
- Pitch (Imperial): 0.079 in
- Pitch (Metric): 2 mm
- Process Temperature Rating: 260 Degrees C (Profile per J-STD-020C)
- Product Series: MP2
- Solder Tails: See Ordering Information
- Tech Sheet Number: TS-1115
- Temperature Rating: -55 Degree C to +125 Degree C
- Termination Method: Press Fit, Solder
- Wiping Area (Plating): See Ordering Information
- Withstanding Voltage: 1000 VAC
- eClass 14 Classification Group: 27460201

## **3M™ Textool™ Receptacles for DIP Sockets**

3M ID B00035255 UPC 04901690065576

### **Details**

Matching receptacle for every ZIP DIP Socket, including "Universal DIP" and "Shrink DIP"

Mounting flanges hold receptacle to board

Pre-tapped holes in receptacle body mate with screw-hole in socket to hold socket firmly to receptacle (2 screws provided)

### **Typical properties**

Factory ISO Certification: No ISO Certification information available

Frame Style: ZIP Socket

Number of Positions: 14 , 16 , 18 , 20 , 22 , 24 , 28 , 32 , 40 , 42 , 48 , 64

PCB Mounting Style: Through Hole

Tech Sheet Number: TS-0362,TS-0454

eClass 14 Classification Group: 27261708

# 3M™ Shielded Controlled Impedance (SCI) Assembly Hardware

3M ID B00035412 UPC 00051138474485

## Details

2 Row Carrier Housing

Carriers available in 3M .100" x .100" Socket (2.54 mm x 2.54 mm)

Compatible with 3M .100" x .100" Headers (2.54 mm x 2.54 mm)

Available in short or long latch styles

3 Row Carrier Housing

Integral locking feature

Includes two

## Typical properties

Factory ISO Certification: No ISO Certification information available

Tech Sheet Number: TS-0802

eClass 14 Classification Group: 27440292

# 3M™ Twin Axial Cable Assembly for PCI Express x4 Jumper Applications, 8KJ2-0743-0250

3M ID 7100062322 UPC 00076308104740

## Details

PCI Express x4 adds flexibility to meet high-speed data transfer demands  
Allows for expanded placement of peripheral components with less concern for heat or reduced performance  
Allows for replacement of PCB traces with high-performance, low-loss twin a

## Typical properties

Application: High-speed Data Transmission  
Brands: 3M™  
Characteristic Impedance: 85 ohms  
Connector Style (End A): Edgecard  
Connector Style (End B): Edgecard  
Connector Type (End A): ST  
Connector Type (End B): ST  
Factory ISO Certification: No ISO Certification information available  
Form Factor: PCIe® Card Edge  
Number of Cable Assembly Lanes: x4  
Number of Conductors: 64  
Product Series: 8KJ2  
Product Usage: Board-to-board, Mid-board Cables, Riser Cables  
Protocol: PCIe®  
Standard Size: 0.25 m, 0.5 m  
Tech Sheet Number: TS-2587  
Wire Gauge (Imperial): 30 AWG  
eClass 14 Classification Group: 19051003

## Dimensions and Classifications

Overall Length (Imperial): 9.84 in  
Overall Length (Metric): 250 mm



**3M™ Mini Serial Attached SCSI (miniSAS) Connector Assembly,  
8AB36  
Series, 8AB36-2XXX, Sample**

3M ID 7000103655

**Details**

Capable of 6 Gbps per channel data rate  
Combination receptacle/shell assembly to facilitate board assembly  
Available with pre-positioning housing to facilitate automated pick-and-place  
Multiple tail types and lengths available on shell guide  
Multiple

**Typical properties**

Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 36  
PCB Mounting Angle: Right Angle  
Tech Sheet Number: TS-2208  
eClass 14 Classification Group: 27440307

## **3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14526-EZ5B-XXX-02C Series**

3M ID B00035639 UPC 00051135217191

### **Details**

- Eight shielded differential pairs
- Each differential twin-ax pair has a foil shield and drain wire
- Entire cable bundle is shielded with foil and braid for additional signal protection
- Rugged MDR Ribbon type contact
- Quick release latches
- RoHS compliant

### **Typical properties**

- Cable Length (Imperial): 1.64 ft, 3.281 ft, 6.562 ft, 9.843 ft, 16.404 ft, 22.966 ft
- Cable Length (Metric): 0.5 m, 1 m, 2 m, 3 m, 5 m, 7 m
- Connector Style (End A): Plug
- Connector Style (End B): Plug
- Connector Type (End A): MDR
- Connector Type (End B): MDR
- Current Rating: 1.0 A
- Factory ISO Certification: No ISO Certification information available
- Jacket Material: PVC
- Number of Positions: 26
- Shell Material: ABS
- Specifications Met: AWM VW-1
- Tech Sheet Number: TS-0866
- eClass 14 Classification Group: 27060304

# **3M™ Mini Delta Ribbon (MDR) Cable Assembly, 1W226-TZLB-XXX-0LC**

3M ID B00035676 UPC 00051135219348

## **Details**

- Supports LVDS Channel Link™ signaling
- Supports Camera Link® Specification V1.0
- 11 shielded pairs (100 ohm) +4 grounds for high bandwidth applications
- High density 26 position MDR with rugged ribbon type contact
- Overmolded backshell
- Thumbscrew latchin

## **Typical properties**

- Cable Length (Imperial): 0.82 ft, 1.64 ft, 3.281 ft, 8.202 ft, 9.843 ft, 16.404 ft
- Cable Length (Metric): 0.25 m, 0.5 m, 1 m, 2.5 m, 3 m, 5 m
- Current Rating: 1.0 A
- Factory ISO Certification: No ISO Certification information available
- Jacket Material: PVC
- Number of Positions: 26
- Shell Material: ABS
- Specifications Met: AWM VW-1
- Tech Sheet Number: TS-2106
- eClass 14 Classification Group: 27060304

## **3M™ Assembly Platen, 3442-9**

3M ID 7000057711 UPC 00054007303725

### **Typical properties**

Brands: 3M™

Factory ISO Certification: No ISO Certification information available

For Use With: Standard Sockets

Tech Sheet Number: FA-0012

## **3M™ Cable Accessory, 3504 Series**

3M ID B00036151

### **Details**

Jacketed cable strain relief/grounding clamps transfer stresses and strains to the cabinet, preventing damage to the connector and other internal devices. They can also be used to ground shielded cable to the cabinet

RoHS compliant

For more Information

### **Typical properties**

Tech Sheet Number: TS-0268

eClass 14 Classification Group: 27440392

## 3M™ Textool™ OEM LCC Sockets

3M ID B00036314 UPC 00051115266928

### Details

- Accepts JEDEC leadless ceramic chip carriers
- Variety of lid options available only for 68 position
- U lid for I.C.E. adaptor I/O cable exit
- Heat Sink available for 68 position
- Polarizing post on bottom of socket
- No tools required for package insertion

### Typical properties

- Contact Base Material: Beryllium Copper
- Contact Underplating Material: Nickel
- Contact Underplating Thickness (Imperial): 50.0 µin
- Contact Underplating Thickness (Metric): 1.27 µm
- Current Rating: 1.0 A
- Factory ISO Certification: No ISO Certification information available
- Frame Style: Closed
- Insulation Material: Glass Filled Polyphenylene Sulfide (PPS)
- Integrated Circuit Type: CLCC
- Mating Contact Finish Material: Gold
- Mating Contact Finish Thickness (Imperial): <10 µin
- Mating Contact Finish Thickness (Metric): <0.25 µm
- Maximum Operating Temperature (Celsius): 105 °C
- Maximum Operating Temperature (Fahrenheit): 221 °F
- Minimum Operating Temperature (Celsius): -55 °C
- Minimum Operating Temperature (Fahrenheit): -67 °F
- Number of Contact Rows: 4
- Number of Contacts: 32 , 68
- PCB Mounting Style: Through Hole
- Pitch (Imperial): 0.1 in
- Pitch (Metric): 2.54 mm
- Tech Sheet Number: TS-0359
- eClass 14 Classification Group: 27261708

## **3M™ Card-Edge, XXXX-0041, 3000 Series**

3M ID B00036344

### **Details**

Molded-in polarizing key between positions 3 and 5 and positions 4 and 6

Metal cover clips provide superior cover retention

Reinforced card-edge resists mouth bowing for consistent contact performance

Bifurcated contacts provide reliable contact with P

### **Typical properties**

Tech Sheet Number: TS-0013

eClass 14 Classification Group: 27440211

# 3M™ Signal Connectors for MicroTCA™ Applications, Backplane

3M ID B00036403

## Details

AdvancedMC™ connector for MicroTCA applications  
Press-fit termination  
0.75 mm pitch  
Mating force: 100 N Max.; Withdrawal force: 65 N Max  
Available with or without post  
Superior signal integrity  
AdvancedMC and MicroTCA are trademarks of PICMG-PCI Ind

## Typical properties

Tech Sheet Number: TS-2368  
eClass 14 Classification Group: 27460201



## **3M™ CP2 Press-Fit Socket CP2 Series**

3M ID B00036504

### **Details**

25 mm basic system unit

50 mm module

Designed according to IEC 61076-4-101 and IEC 60352-5 Standards

2 mm grid spacing allows for high signal density at low cost

“Eye of the Needle” compliant pin press-fit design helps reduce manufacturing time and cost

### **Typical properties**

Connector Style: Receptacle

Factory ISO Certification: No ISO Certification information available

Mounting Type: Boardmount

Number of Contact Rows: 5

Number of Contacts: 95 , 110

Pitch (Imperial): 0.079 in

Pitch (Metric): 2 mm

Tech Sheet Number: TS-2268

eClass 14 Classification Group: 27460201

# **3M™ HSHM Press-Fit Header, 8-Row, HSHM Series**

3M ID B00036527

## **Details**

- Up to 5 Gbps Data Rates
- Low Cross-talk at High Frequencies
- 50/100 (Single-ended/Differential) Impedance
- Modular/Scalable Format IEC 61076-4-101
- 101 Mated Lines per inch
- Ships with Protective Cap, which also serves as Insertion Tool
- End-to-End Stacka

## **Typical properties**

- Tech Sheet Number: TS-2556
- eClass 14 Classification Group: 27460201

# **3M™ Pak 50 Stacking Compression Connector, 389 Series**

3M ID B00036724

## **Details**

One-piece connector  
Surface pressure contact  
Bus applications  
RoHS compliant  
For more information, refer to Data Sheet TS0798 (TS-0798)

## **Typical properties**

Tech Sheet Number: TS-0798  
eClass 14 Classification Group: 27460201

## 3M™ Mini-Clamp II Plug, 371 Series

3M Product Number 371 Series 3M ID B00036751 UPC 04547452854233

### Details

- Compact and space-saving design for easy installation and organization
- Semi-transparent covers for quick and efficient wire inspection
- Secure wire retention to ensure a reliable connection
- Convenient and compact connector for effortless wiring
- Durable

### Typical properties

- Application: Wire Branching, Wire-to-board Connecting, Wire-to-wire Connecting
- Connection Type: IDC
- Connector Style: Plug
- Factory ISO Certification: No ISO Certification information available
- Insulation Material: Thermoplastic
- Maximum Conductor Size (Imperial): 20 AWG, 24 AWG
- Maximum Conductor Size (Metric): 0.25 mm<sup>2</sup>, 0.5 mm<sup>2</sup>
- Minimum Conductor Size (Imperial): 24 AWG, 26 AWG
- Minimum Conductor Size (Metric): 0.14 mm<sup>2</sup>, 0.25 mm<sup>2</sup>
- Mounting Type: Wiremount
- Number of Contact Rows: 1
- Number of Contacts: 3 , 4
- Pitch (Imperial): 0.08 in
- Pitch (Metric): 2 mm
- Product Color: Black, Blue, Gray, Green, Orange, Red, Yellow
- Specifications Met: China RoHS, RoHS 2011/65/EU
- Tech Sheet Number: TS-2233
- Termination Method: IDC
- eClass 14 Classification Group: 27460202

## 3M™ Mini Delta Ribbon (MDR),101XX-60XOEC, 101 Series

3M ID B00036872 UPC 04547452563074

### Details

Wiper-on-wiper contact for reliable repetitive plugging  
MDR digital LCD interface as a 20 or 26 contact connector  
IEEE 1284C Interface as a 36 contact connector  
Accepts a wide variety of cable constructions including flat, round, twisted pair and twina

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Plug  
Contact Base Material: Beryllium Copper  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin,50 µin  
Contact Underplating Thickness (Metric): 1.27 µm,2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Glass Filled Polyester (PBT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin,8 µin,20 µin  
Mating Contact Finish Thickness (Metric): 0.5 µm,0.2 µm,0.76 µm  
Maximum Conductor Size (Imperial): 26 AWG (Solid), 28 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Conductor Size (Imperial): 26 AWG (Solid), 28 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Wiremount  
Number of Contact Rows: 2  
Number of Contacts: 14 , 20 , 26 , 36 , 40 , 50 , 68 , 80 , 100  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Electronic Devices, Wiremount  
Shell Material: Steel  
Shell Plating: Nickel  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0423  
Termination Method: IDC  
eClass 14 Classification Group: 27440307

## 3M™ D Sub Socket 8350 Series

3M Product Number 8350 Series 3M ID B00036981

### Details

IDC compatible  
Lower insertion/withdrawal force than other 50-position products  
Available with open- or closed-end cover  
Mounting options include #4-40 UNC or metric M2.5  
Conforms to IPI standards  
RoHS compliant

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin  
Contact Underplating Thickness (Metric): 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: PCB Retention  
Insulation Material: Glass Filled Polyester (PBT)  
Markings: 3M Logo & Contact Position Numbers  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Maximum Conductor Size (Imperial): 26 AWG (Solid & Stranded)  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Conductor Size (Imperial): 28 AWG (Solid & Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Wiremount  
Number of Contact Rows: 3  
Number of Contacts: 50  
Pitch (Imperial): 0.108 in  
Pitch (Metric): 2.74 mm  
Product Usage: Electronic Devices, Wiremount  
Shell Material: Steel  
Shell Plating: Tin  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-0034  
Termination Method: IDC  
eClass 14 Classification Group: 27440307

## 3M™ Mini Delta Ribbon (MDR), 101XX-8X00EE, 101 Series

3M ID B00037023 UPC 04901690668807

### Details

Wiper-on-wiper contact for reliable repetitive plugging

Interface latch design for connection stability

Mass terminates to .025" pitch flat ribbon cable

Contacts: 50 and 68

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemicals

### Typical properties

Application: Connection Stability, High-density Mounting, Repetitive Mating & Unmating

Connector Style: Plug

Contact Base Material: Copper Alloy

Contact Underplating Material: Nickel

Contact Underplating Thickness (Imperial): 100 µin

Contact Underplating Thickness (Metric): 2.54 µm

Current Rating: 1.0 A

Factory ISO Certification: No ISO Certification information available

Insulation Material: Glass Filled Polyester (PBT)

Markings: 3M Logo and Part Number

Mating Contact Finish Material: Gold

Mating Contact Finish Thickness (Imperial): 20 µin

Mating Contact Finish Thickness (Metric): 0.5 µm

Maximum Conductor Size (Imperial): 30 AWG (Tin Coat Stranded or Solid)

Maximum Operating Temperature (Celsius): 70 °C

Maximum Operating Temperature (Fahrenheit): 158 °C

Minimum Conductor Size (Imperial): 30 AWG (Tin Coat Stranded or Solid)

Minimum Operating Temperature (Celsius): -55 °C

Minimum Operating Temperature (Fahrenheit): -67 °F

Mounting Type: Wiremount

Number of Contact Rows: 2

Number of Contacts: 50 , 68

Pitch (Imperial): 0.05 in

Pitch (Metric): 1.27 mm

Product Usage: Electronic Devices, Wiremount

Specifications Met: China RoHS

Tech Sheet Number: TS-0514

Termination Method: IDC

eClass 14 Classification Group: 27440307

## **3M™ Mini Delta Ribbon (MDR), 103XX-C500-00, 103 Series**

3M ID B00037096 UPC 04548623355900

### **Details**

60° metal junction shell for round cable  
Rugged two-piece die cast metal shell with 60° round exit (compatible with 101XX-6000 EC plug)  
Reliable metal strain relief clamp provides grounding for cable shield  
Excellent EMI/ESD protection  
Quick release l

### **Typical properties**

Compatible Cable Shape: Round  
Compatible Number of Contacts: 14 , 26 , 36 , 40 , 50 , 68 , 80 , 100  
Connector Style: Plug  
Factory ISO Certification: No ISO Certification information available  
For Use With: MDR Connectors  
Mounting Type: Wiremount  
Number of Cable Entries: 1  
Number of Contact Rows: 2  
Product Color: Silver  
Product Type: Junction Shell  
Shell Material: Zinc Alloy Die Cast  
Tech Sheet Number: TS-0394  
eClass 14 Classification Group: 27440213

### **Dimensions and Classifications**

Overall Thickness (Imperial): 0.05 in



## 3M™ Mini Delta Ribbon (MDR), N102XX-52XXC, 102 Series

3M ID B00037577 UPC 04547452604579

### Details

- Wiper-on-wiper contact for reliable repetitive plugging
- Rugged die cast metal case construction
- SMT compatible PCT insulator material
- Screw or ground lock for reliable PCB retention
- Interface latch design for connection stability
- IEEE 1284C Interface

### Typical properties

- Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating
- Connector Style: Receptacle
- Contact Base Material: Copper Alloy
- Contact Underplating Material: Nickel
- Contact Underplating Thickness (Imperial): 100 µin
- Contact Underplating Thickness (Metric): 2.54 µm
- Current Rating: 1.0 A
- Factory ISO Certification: No ISO Certification information available
- Features: PCB Retention
- Insulation Material: Glass Reinforced Polyester (PCT)
- Markings: 3M Logo and Part Number
- Mating Contact Finish Material: Gold
- Mating Contact Finish Thickness (Imperial): 30 µin
- Mating Contact Finish Thickness (Metric): 0.76 µm
- Maximum Operating Temperature (Celsius): 105 °C
- Maximum Operating Temperature (Fahrenheit): 221 °F
- Minimum Operating Temperature (Celsius): -55 °C
- Minimum Operating Temperature (Fahrenheit): -67 °F
- Mounting Type: Boardmount
- Number of Contact Rows: 2
- Number of Contacts: 14 , 20 , 26 , 36 , 40 , 50 , 68 , 80 , 100
- PCB Mounting Angle: Right Angle
- PCB Mounting Style: Through Hole
- Pitch (Imperial): 0.05 in
- Pitch (Metric): 1.27 mm
- Product Usage: Boardmount, Electronic Devices
- Shell Material: Steel
- Shell Plating: Nickel
- Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0
- Tech Sheet Number: TS-0531
- Termination Method: Solder
- eClass 14 Classification Group: 27440307

## 3M™ Novec™ 73DE Engineered Fluid

### Details

Designed for use in vapor degreasers and immersion cleaning  
Cost-effective replacement for nPB, TCE, ozone-depleting HCFCs and high GWP HFCs  
Excellent performance with high solvency and low surface tension  
Effective in cleaning heavy greases, oils, wax

### Typical properties

Application: Cleaning, Immersion Cleaning, Precision Cleaning, Solvent Cleaning, Vapour Degreasing  
Boiling Point (Celsius): 48 °C  
Boiling Point (Fahrenheit): 118 °F  
Brands: Novec™  
Cleaning Strength: Heavy Duty  
Compatible Fluorochemical: Fluorosilicone, Low Solubility for Fluorochemical Lubricants, Silicone  
Density (Imperial): 79.908 lb/ft<sup>3</sup>  
Density (Metric): 1.28 g/cm<sup>3</sup>  
Dielectric Strength Range: 35 kV - 40 kV  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: Low  
GWP (IPCC 2007): 47 (100 yr ITH)  
GWP Range: Very Low  
Hydrocarbon Solubility: Very High  
Maximum Use Temperature (Celsius): 150 °C  
Maximum Use Temperature (Fahrenheit): 302 °F  
Net Weight (Imperial): 10 lb, 50 lb, 550 lb  
Net Weight (Metric): 4.54 kg, 22.68 kg, 249.48 kg  
Plastic Elastomer Compatibility: Requires Customer Testing  
Pour Point (Celsius): -10 °C  
Pour Point (Fahrenheit): 14 °F  
Product Series: Novec 73DE  
Product Usage: Deposition Solvent  
Replacement For: HCFCs, HFCs, TCE, nPB  
Substrate: Silicone, Solvent-resistant Plastic  
Volume (Imperial): 1 gal, 5 gal, 55 gal  
Volume (Metric): 3.79 L, 18.93 L, 208.2 L  
eClass 14 Classification Group: 23060490

## 3M™ Ribbon Cable Wiremount Socket 1.27 mm (0.050 in) Pitch 451 Series

3M Product Number 451 Series 3M ID B00038568 UPC 08887862410084

### Details

Helps enable design flexibility in wire-to-board and PLC controllers, especially for small devices

True half-size .050"/1.27mm pitch saves space without significant reduction in connections

Delivers high connection density to ribbon cable applications

### Typical properties

Application: Wire-to-board Connecting

Compatible Wire Type: Ribbon Cable

Connector Style: Receptacle

Contact Base Material: Beryllium Copper

Contact Underplating Material: Nickel

Contact Underplating Thickness (Imperial): 50 µin - 150 µin

Contact Underplating Thickness (Metric): 1.27 µm - 3.81 µm

Current Rating: 0.75 A

Factory ISO Certification: No ISO Certification information available

Features: Closed End, Feed Through, Polarizing Key, Strain Relief

Insulation Color: Gray

Insulation Material: Glass Filled Polyester (PBT)

Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 500 VDC

Mating Contact Finish Material: Gold

Mating Contact Finish Thickness (Imperial): 30 µin

Mating Contact Finish Thickness (Metric): 0.76 µm

Maximum Conductor Size (Imperial): 30 AWG (Solid), 30 AWG (Stranded)

Maximum Operating Temperature (Celsius): 125 °C

Maximum Operating Temperature (Fahrenheit): 257 °F

Minimum Conductor Size (Imperial): 30 AWG (Solid), 30 AWG (Stranded)

Minimum Operating Temperature (Celsius): -65 °C

Minimum Operating Temperature (Fahrenheit): -85 °F

Number of Contact Rows: 2

Number of Contacts: 4 , 6 , 8 , 10 , 12 , 14 , 16 , 20 , 26 , 30 , 40 , 50

Pitch (Imperial): 0.05 in

Pitch (Metric): 1.27 mm

Product Series: 451

Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0

Tech Sheet Number: TS-2436

Termination Method: IDC

Withstanding Voltage: 1250 VDC at Sea Level

eClass 14 Classification Group: 27460202

## 3M™ IDC Ribbon Cable Socket, D89 Series

3M Product Number D89 Series 3M ID B00038605 UPC 08887862429499

### Details

Preassembled, packaging on swords for easy loading of manual and semi-automatic assembly equipment  
Bulk packaging option for maximum economy  
Bumps help prevent premature latch locking during shipment  
Optional double-sided adhesive pull tab for easy un

### Typical properties

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Contact Base Material: Phosphor Bronze  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm  
Current Rating: 1.25 A  
Factory ISO Certification: No ISO Certification information available  
Features: Closed End, Feed Through, Polarizing Key, Strain Relief  
Insulation Color: Gray  
Insulation Material: Glass Filled Polyester (PBT)  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$   
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 15 µin  
Mating Contact Finish Thickness (Metric): 0.381 µm  
Maximum Conductor Size (Imperial): 26 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Conductor Size (Imperial): 28 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 8 , 10 , 14 , 16 , 20 , 24 , 26 , 30 , 34 , 36 , 40 , 50 , 60  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Product Series: D89  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-2243  
Termination Method: IDC  
Withstanding Voltage: 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

# **3M™ Battery Electrolyte HQ-115**

3M ID B00005989

## **Details**

Longer battery cycle life, 10% improvement in capacity retention after 300 cycles at 50C

Reduced gas generation for minimize swelling in pouch or prismatic cells

Cell impedance control through formation of effective SEI protective layers

Improved safety

## **Typical properties**

Product Type: Battery Electrolyte

eClass 14 Classification Group: 27059090

## 3M™ Wiremount Socket Preassembled 3000 Series

3M Product Number 3000 Series 3M ID B00038710 UPC 08887862428829

### Details

Industry standard IDC socket provides versatility to system design  
Mates with 3M headers, plugs and pin strips for quick connect/disconnect efficiency  
Accepts flat cable or discrete wire  
Open or closed end covers available  
Faster termination can be

### Typical properties

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin  
Contact Underplating Thickness (Metric): 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: Closed End, Feed Through, Polarizing Key, Strain Relief  
Insulation Color: Gray  
Insulation Material: Glass Filled Polyester (PBT)  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$   
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Maximum Conductor Size (Imperial): 26 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Conductor Size (Imperial): 28 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 10 , 16 , 20 , 26  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Product Series: 3000  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0719  
Termination Method: IDC  
Withstanding Voltage: 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

## 3M™ Round Conductor Flat Cable HF365 Series

3M Product Number HF365 Series 3M ID B00039596 UPC 00051111951439

### Details

LSZH materials help reduce the risk of soot and corrosion damage to nearby equipment  
Size 28 AWG wire on .050 in. centers for easy mass termination to IDC connectors  
Stranded copper wire provides flexibility and extended cable life  
Zippable design allo

### Typical properties

Application: Mass Termination  
Cable Type: Stranded  
Factory ISO Certification: No ISO Certification information available  
Features: Halogen-free  
Insulation Color: Dark Gray  
Insulation Material: Halogen Free Polyolefin  
Number of Conductors: 4 , 6 , 8 , 9 , 10 , 11 , 12 , 14 , 15 , 16 , 18 , 20 , 24 , 25 , 26 , 30 , 34 , 36 , 37 , 40 , 44 , 50 , 60 , 64  
Number of Strands: 7  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Specifications Met: RoHS 2011/65/EU  
Tech Sheet Number: TS-2334  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27060106

### Dimensions and Classifications

Overall Length (Imperial): 100 ft, 300 ft  
Overall Length (Metric): 30.48 m, 91.44 m

## **3M™ Pleated Foil Shielded Cable, 90104 Series**

3M ID B00039684 UPC 00051111527030

### **Details**

Can be used with IDC mass termination connectors  
Can be used in applications requiring standard impedance of 100  $\Omega$  balanced (differential)  
CL2 rated, rugged design and high reliability for peripheral applications  
Solid pleated copper foil provides flex

### **Typical properties**

Application: Signal Integrity  
Cable Type: Shielded  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Translucent White  
Insulation Material: TPE  
Jacket Color: Gray  
Jacket Material: PVC  
Number of Conductors: 15 , 20 , 26 , 34 , 37 , 50  
Number of Strands: 7  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Tech Sheet Number: TS-0288  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27060106



# **3M™ Water-Soluble Wave Solder Tape 5414**

## **Details**

No adhesive residue after removal  
Moisture barrier packaging plus desiccant  
Humidity extremes do not affect tape properties  
Easy manual and machine application  
Available on cardboard or polyethylene core

## **Typical properties**

Backing (Carrier) Material: Vinyl  
Factory ISO Certification: No ISO Certification information available  
Product Color: Transparent

## **Dimensions and Classifications**

Overall Length (Imperial): 36 yd  
Overall Length (Metric): 33 m  
Overall Width (Imperial): 0.5 in, 0.75 in, 1 in  
Overall Width (Metric): 12.7 mm, 19 mm, 25 mm

# **3M™ Light-To-Heat-Conversion Release Coating**

3M ID B00042821

## **Details**

Helps manufacturers enable stress free, room temperature debonding of adhesive to glass carrier interface with laser irradiation  
Ink coating delivers low-force release, allowing for glass carrier recycling  
Enables room temperature debonding without high

## **Typical properties**

eClass 14 Classification Group: 27400113

## **3M™ Link Connector, 382 Series**

3M ID B00044973 UPC 04547452450374

### **Details**

Boardmount header  
Mates with 3M Link Connector, 381 Series  
Vertical or right angle configuration  
Board retention feature for 1.0 mm and 1.6 mm thick boards  
Board retention feature for 1.0 mm and 1.6 mm thick boards  
Unshielded  
For more information re

### **Typical properties**

Application: Wire-to-board Connecting  
Connection Type: Solder  
Connector Style: Receptacle  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Thermoplastic  
Mounting Type: Boardmount  
Number of Contact Rows: 1  
Number of Contacts: 2 , 4  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Product Color: Black, Light Blue  
Specifications Met: China RoHS, RoHS 2011/65/EU  
Tech Sheet Number: TS-2099  
Termination Method: Solder  
eClass 14 Classification Group: 27460202

# **3M™ Water Contact Indicator Tape 5557NA**

3M ID B10454903

## **Details**

Film top layer is printable by thermal transfer, flexographic, and screen printing methods and offers improved ink receptivity

The film top layer also provides protection from soiling and moisture during handling

Paper backing is highly absorbent and tr

# 3M™ Mini Delta Ribbon (MDR) Connectors, 102 Series

3M ID B00046116

## Details

Wiper-on-wiper contact for reliable repetitive plugging  
Ground lock PCB retention  
Interface latch design for connection stability  
36 contacts  
See Regulatory Information Appendix (last page of Tech Data Sheet) for  
chemical compliance information  
For m

## Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting,  
Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Current Rating: 1.0 A  
Features: PCB Retention  
Insulation Material: Glass Filled Polyester (PBT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 36  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Boardmount, Electronic Devices  
Shell Material: Steel  
Shell Plating: Nickel  
Tech Sheet Number: TS-0790  
Termination Method: Solder  
eClass 14 Classification Group: 27440307

## **3M™ Pak 50 Low Profile Plug, P50L Series**

3M Product Number P50L Series 3M ID B00046681 UPC 00051111740064

### **Details**

Low profile (7-8 mm) plug is excellent for SMT board stacking applications  
Polarity identification to help maximize accuracy  
High temperature insulator allows for IR and wave soldering  
Retention clips stabilize connector to the board during wave solder

### **Typical properties**

Application: Board-to-board Connecting  
Connector Style: Plug  
Factory ISO Certification: No ISO Certification information available  
Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 500 VDC  
Mating Option: None  
Number of Contact Rows: 0 , 2  
Number of Contacts: 30 , 40 , 60 , 80 , 100  
PCB Mounting Style: Surface Mount  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Process Temperature Rating: 260 °C (Per J-STD-020C)  
Tech Sheet Number: TS-2056  
eClass 14 Classification Group: 27460201

## 3M™ Pin Strip Header, 929 Series

3M Product Number 929 Series 3M ID B00046713 UPC 00076308057749

### Details

Stackable pin header expands design flexibility  
Available in tin or gold plating for a broad range of uses  
Solder stand-offs help dissipate heat during wave soldering  
Solder tails help strengthen through-hole board attachment  
Breakaway pin headers are

### Typical properties

Application: Board-to-board Connecting, Wire-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Pin Header  
Contact Base Material: Copper Alloy  
Contact Termination Area Plating Material: None  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm  
Current Rating: 2.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Breakaway  
Insulation Color: Black  
Insulation Height (Imperial): 0.11 in  
Insulation Height (Metric): 2.79 mm  
Insulation Material: PCT  
Insulation Resistance:  $>5 \times 10^9 \Omega$  @ 500 VDC  
Latch/Ejector Type: Push-in/Pull-out  
Mating Contact Finish Material: Gold, Tin, Tin/Lead (90/10)  
Mating Contact Finish Thickness (Imperial): 200 µin, 10 µin  
Mating Contact Finish Thickness (Metric): 5.08 µm, 0.25 µm  
Mating Option: Board to Board  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Moisture Sensitivity Level: 1 (Per J-STD-020C) (PCT Insulator Version Only)  
Mounting Option: Mounting Flanges - 4-40 Threaded  
Number of Contact Rows: 1  
Number of Contacts: 1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 20 , 24 , 25 , 30 , 32 , 35 , 36  
Orientation: Horizontal, Vertical  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 0.1 mm  
Post Contact Finish Material: Gold, Tin  
Product Series: 929  
Shroud Style: Unshrouded

Specifications Met: UL 94V-0  
Tech Sheet Number: TS-0768  
Voltage Rating: 1500 Vrms at Sea Level  
eClass 14 Classification Group: 27460201



## **3M™ Pin Strip Header, 961 Series**

3M ID B00046737

### **Details**

High temperature dielectric

“No lead” wave and reflow solder compatible

End stackable feature

Single- and dual row version

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information

For more information, re

### **Typical properties**

Application: Board-to-board Connecting, Wire-to-board Connecting

Tech Sheet Number: TS-2185

eClass 14 Classification Group: 27460201

## **3M™ Textool™ Shrink DIP Sockets**

3M ID B00050268 UPC 04901690075902

### **Details**

For DIPs with .070" (1.78 mm) lead spacing  
Pin counts from 28 through 90 leads  
Lever actuated zero insertion force mechanism  
Socket contact point of .090" (2.29 mm) below top surface of socket  
For more Information refer to Data Sheet TS0366 (TS-0366)

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Frame Style: ZIP Socket  
Number of Positions: 28 , 32 , 42 , 56 , 64 , 90  
PCB Mounting Style: Through Hole  
Tech Sheet Number: TS-0366  
eClass 14 Classification Group: 27261708

## **3M™ MetPak™ HM Header, HM Series**

3M ID B00050415

### **Details**

Modular/scalable format IEC 61076-4-101

Press-fit or solder tail version

63 mated lines per linear inch

Multi-purpose center (MPC) for keying and guidance

Ships with protective cap, which also serves as an insertion tool

End-to-end stackable with 5 r

### **Typical properties**

Tech Sheet Number: TS-2005

eClass 14 Classification Group: 27460201

## **3M™ EMI Absorber AB5000SHF Series**

3M Product Number AB5000SHF Series 3M ID B00021972

### **Details**

Near-field absorber is excellent for frequencies from 800 MHz - 2 GHz  
Operating frequency of 300 MHz - 2 GHz  
Polymer resin sheets are flexible for consistent coverage  
Filler consisting of soft metal flakes absorb noise into the polymer  
Acrylic pressur

### **Typical properties**

Application: EMI Absorbing  
Frequency Range: 1 GHz - 3 GHz, 100 MHz - 1 GHz  
Product Usage: Cables, Camera Modules, Display Chip on Flex, Enclosures,  
Flexible Printed Circuits, Printed Circuit Boards, Semiconductor Chips, Sensors  
eClass 14 Classification Group: 27182804

## 3M™ Pak 10 Plug, PK10 Series

3M ID B30000117 UPC 00051119912920

### Details

- 1 mm pitch connector system
- Stacked, Horizontal or Vertical Mating
- Low profile 5 mm mated height
- Surface mount retention clips reduce stress on surface mount leads
- Keyed design helps prevent mating misalignment
- Hard Tray and Vacuum pickup for automat

### Typical properties

- Application: Board-to-board Connecting
- Connector Style: Plug
- Contact Base Material: Copper Alloy
- Contact Termination Area Plating Material: Gold Flash
- Factory ISO Certification: No ISO Certification information available
- Insulation Material: Glass Filled LCP
- Insulation Resistance:  $>1 \times 10^3 \text{ M}\Omega$  @ 500 VDC
- Mating Option: None
- Number of Contact Rows: 0
- Number of Contacts: 50
- Pitch (Imperial): 0.0393701 in
- Process Temperature Rating: 260 °C (Per J-STD-020C)
- Specifications Met: UL 94V-0
- Tech Sheet Number: TS-1078
- eClass 14 Classification Group: 27460201

## **3M™ Pak 8 Plug Connector, P08 Series**

3M ID B30000131

### **Details**

0.8 mm pitch connector system

Mated heights available from 3 mm to 8 mm

Surface mount design

Locking mechanism with audible click when fully-mated

Tape and reel with suction covers available for automated assembly placement

See Regulatory Information

### **Typical properties**

Application: Board-to-board Connecting

PCB Mounting Style: Surface Mount

Pitch (Imperial): 0.031 in

Pitch (Metric): 0.8 mm

Tech Sheet Number: TS-1096

eClass 14 Classification Group: 27460201

## 3M™ Three-Wall Header 3000 Series

3M Product Number 3000 Series 3M ID B30000153 UPC 08887862422254

### Details

- Military and center bump polarization
- Low-profile design
- Optional ejector latches
- Mounting holes for securing header to board
- Three-wall shroud provides design flexibility
- Solder tail and wrap tail options
- Optional polarizing posts available
- High-t

### Typical properties

- Application: Wire-to-board Connecting
- Connector Shape: Rectangular
- Connector Style: Header
- Contact Base Material: Copper Alloy
- Current Rating: 1.75 A
- Factory ISO Certification: No ISO Certification information available
- Features: Mounting Flange
- Insulation Color: Black
- Insulation Height (Imperial): 0.31 in, 0.68 in
- Insulation Height (Metric): 7.87 mm, 17.27 mm
- Insulation Material: Glass Filled Polyester (PBT) or High Temperature (PCT)
- Latch/Ejector Type: Latch Lock/Eject Hooks (Long), Latch Lock/Eject Hooks (Short), Push-in/Pull-out
- Mating Contact Finish Material: Gold
- Mating Option: Board to Board, Board to Cable, Board to Wire
- Maximum Operating Temperature (Celsius): 105 °C
- Maximum Operating Temperature (Fahrenheit): 221 °F
- Minimum Operating Temperature (Celsius): -55 °C
- Minimum Operating Temperature (Fahrenheit): -67 °F
- Number of Contact Rows: 2
- Number of Contacts: 10 , 14 , 16 , 20 , 26 , 34 , 40 , 50 , 60 , 64
- PCB Mounting Angle: Right Angle, Straight
- PCB Mounting Style: Through Hole
- Pitch (Imperial): 0.079 in
- Pitch (Metric): 0.1 mm
- Post Contact Finish Material: Matte Tin
- Product Series: 3000
- Shroud Style: 3 Wall
- Specifications Met: UL 94V-0
- Tech Sheet Number: TS-0771
- Voltage Rating: 1000 Vrms at Sea Level
- eClass 14 Classification Group: 27460201

# **3M™ Lapping Film 863XW, Sheets and Rolls**

3M ID B10121083

## **Details**

High Yield, increased throughput  
Consistent protrusion values  
Low insertion loss and back reflection  
Available in discs, sheets and rolls



# 3M™ Novec™ 2704 Electronic Grade Coating

## Details

Easy application and processing – dries in seconds without the need for thermal post-curing  
Requires little or no masking  
Allows solder-through repairability and is easily removed for rework & repair  
Contains a low level of volatile organic compounds (

## Typical properties

Application: Anti-stiction, Chemical Protection, Corrosion Protection, Moisture Protection, Protecting  
Application Method: Brush, Dip, Selective Dispense, Spray  
Brands: Novec™  
Coating Location: Electronic Device Components  
Coating Thickness Range (Metric): 0.3 µm - 0.6 µm, 200 nm - 1 µm  
Dielectric Constant: 2.8  
Dielectric Strength: 2500 V/mil, 3700 V/mil  
Dissipation Factor: 0.011  
Factory ISO Certification: No ISO Certification information available  
Net Weight (Imperial): 0.18 lb, 11 lb, 33 lb  
Net Weight (Metric): 5 kg, 14.97 kg, 81 g  
Polymer Type: Fluoroacrylate  
Product Series: Novec 2704  
Product Usage: Printed Circuit Boards  
Removability: Removable with 3M™ Novec™ Engineered Fluid 7100,  
Removable with 3M™ Novec™ Engineered Fluid 7200, Removable with 3M™ Novec™ Engineered Fluid 72A, Removable with 3M™ Novec™ Engineered Fluid 72DA  
Specifications Met: RoHS 2011/65/EU  
Thermal Cure Time & Temperature: No Need to Cure  
UV Detectable: Yes  
Volume (Imperial): 1 gal, 2 fl oz, 3.5 gal  
Volume (Metric): 3.78 L, 13.2 L, 59.147 mL  
eClass 14 Classification Group: 27400113

## **3M™ Pak 50 Boardmount Header, 108 Series**

3M ID B10410498

### **Details**

4-Wall shroud protects pins

80 contacts

High density interconnect

Low profile

For more information, refer to Data Sheet TS0778 (TS-0778)

### **Typical properties**

Application: Board-to-board Connecting, Wire-to-board Connecting

Tech Sheet Number: TS-0778

eClass 14 Classification Group: 27460201

## **3M™ Shunt, 959 Series**

3M ID B00035017

### **Details**

Open top contact allows easy probing and testing  
See Regulatory Information Appendix (last page of Tech Data Sheet) for  
chemical compliance information  
For more information refer to Data Sheet TS2161 (TS-2161)

### **Typical properties**

Tech Sheet Number: TS-2161

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 240-5205-01

3M ID 7010348027 UPC 00051115602252

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2470-2

## Typical properties

- Brands: Textool™
- Factory ISO Certification: No ISO Certification information available
- Tech Sheet Number: TS-2470
- eClass 14 Classification Group: 27261708

# **3M™ Connector for PC104 Embedded Systems Applications, Bus Compatible, 4P01/4P02 Series**

3M ID B5005035037

## **Details**

- 3M PC104 Connectors
- Standard PC104 pin-and-socket connectors
- Rugged and reliable 64- and 40-contact male/female headers
- Simple contact design to accommodate many standoff heights
- Available in solder tail
- PC104 Standard Benefits
- Compact form factor a

## **Typical properties**

- Tech Sheet Number: TS-2393
- eClass 14 Classification Group: 27460201

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 228-5204-01

3M ID 7010291949 UPC 00051115602191

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2465-5

## Typical properties

- Brands: Textool™
- Factory ISO Certification: No ISO Certification information available
- Tech Sheet Number: TS-2465
- eClass 14 Classification Group: 27261708

# 3M™ Twin Axial Cable, SL8801/12 Series, 4 Pair, 4 Sidebands in Center

3M ID B5005035041 UPC 00076308601812

## Details

Flat, foldable

High Bandwidth

Mass processing and termination

Internal miniSAS, SFF 8087

See Regulatory Information Appendix link for chemical compliance information

For more information refer to Customer Drawing 78-5100-2412-4

## Typical properties

Conductor Material: Copper

Factory ISO Certification: No ISO Certification information available

Impedance: 95  $\Omega$

Insulation Color: Silver

Insulation Material: Polyolefin

Number of Conductors: 8

Number of Pairs: 4

Pitch (Imperial): 0.093 in

Pitch (Metric): 2.37 mm

Product Series: SL8801

Tech Sheet Number: TS-2412

Wire Size: 30 AWG

eClass 14 Classification Group: 19051003

# **3M™ Scotch™ Surface Protective Tape 331T**

3M ID B5005036061

## **Details**

No residue

Low adhesion level

Indoor and outdoor weather abilities are excellent

Because of no silicone back treatment there is no trouble of silicone transfer when used with printed circuit boards

## **Typical properties**

Brands: 3M™



## **3M™ Wafer De-Taping Tape 879**

3M ID B5005035268

### **Details**

Enables simple, low-stress, room temperature peeling of 3M™ Adhesives from thinned silicon wafers after glass carrier debonding  
Transparency allows for inspection without tape removal  
High instant adhesion to substrate  
Good holding power

### **Typical properties**

eClass 14 Classification Group: 23330202

# **3M™ Lapping Film 265X, 1.0 Micron PSA Sheet, 8.50 in x 11 in, 50/Inner, 200/Case**

3M ID 7000028118 UPC 00051111497746

## **Details**

PSA-backed  
Tight particle distribution  
Softer resin than other aluminum oxide products  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## **Typical properties**

Abrasive Material: Aluminum Oxide  
Application: Final Finishing, Flat Lapping, Polishing  
Attachment Type: PSA Back  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 1 µm  
Product Form: Roll, Sheet  
Product Series: 265X  
Product Usage: Fiber Optic Connectors, Optical  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic

## **Dimensions and Classifications**

Overall Length (Imperial): 11 in  
Overall Length (Metric): 279.4 mm  
Overall Width (Imperial): 8.5 in  
Overall Width (Metric): 215.9 mm

## **3M™ CMP Pad Conditioner Brush**

### **Details**

Excellent for soft CMP pads, including microreplicated, porometric and felt-based pads

Efficient pad cleaning and slurry distribution helps manufacturers enable low cost of ownership

Metal-free, polymer bristles resist corrosion

Durable bristles are in

### **Typical properties**

Abrasive Material: Nylon Fibers

Abrasive Working Surface: Full Face

Application: Advanced Node (Memory & Logic), CMP, Pad Cleaning, Wafer Manufacturing

CMP Process: Cu (Barrier), Final Buff, W (Buff)

Carrier Diameter (Imperial): 4.25 in

Carrier Diameter (Metric): 107.95 mm

Carrier Form: Disc

Carrier Material: Polycarbonate

Factory ISO Certification: No ISO Certification information available

Product Series: PB32A, PB33A, PB52A

Product Type: Brush

# 3M™ Non-Conductive Heat Activated Cover Tape 2672, 9.5 mm x 480 m

3M ID 7000017331

## Details

Recommended for electronic components require no ESD protection  
Works well on 3M™ Polycarbonate Carrier 2703 and 3M™ Polycarbonate Carrier 2705 with good sealing compatibility and peeling performance; can also be used on some other types of carriers  
480

## Typical properties

Adhesive Features: Heat Activated  
ESD Material Type: Non-conductive  
Elongation: 60 %  
Factory ISO Certification: No ISO Certification information available  
Haze Percentage: 29 %  
Maximum Sealing Temperature (Celsius): 230 °C  
Maximum Sealing Temperature (Fahrenheit): 446 °F  
Minimum Sealing Temperature (Celsius): 170 °C  
Minimum Sealing Temperature (Fahrenheit): 338 °F  
Product Usage: Passive Components  
eClass 14 Classification Group: 27140708

## Dimensions and Classifications

Overall Length (Imperial): 524.934 yd  
Overall Length (Metric): 480 m  
Overall Thickness (Imperial): 0.002 in  
Overall Thickness (Metric): 0.062 mm  
Overall Width (Imperial): 0.374 in  
Overall Width (Metric): 9.5 mm

# 3M™ Bumpon™ Protective Products SJ5308 Clear, 3000/Case

3M ID 7000002104 UPC 00021200445279

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Cushioning Spacer, Cushioning Stop, Protective Non-Skid Feet, Surface Protection  
Availability: Stocked  
Backing Material: Polyurethane  
Base Width: 0.500 in  
Base Width (Metric): 12.7 mm  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ5308  
Product Type: Bumper  
Shape: Square-Tapered w/ Flat Top  
Width-Diameter Range: 0.500 - 0.599 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.12 in  
Overall Height (Metric): 3.05 mm  
Overall Length (Imperial): 0.5 in  
Overall Length (Metric): 12.7 mm  
Overall Width (Imperial): 0.5 in  
Overall Width (Metric): 12.7 mm

# 3M™ Bumpon™ Protective Products SJ5510

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Anti-Skid Protective Strip, Custom  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Base Width: 0.500 in  
Base Width (Metric): 12.7 mm  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Gray, White  
Product Form: Molded  
Product Series: SJ5510  
Product Type: Bumper  
Shape: Continuous Strip  
Width-Diameter Range: 0.500 - 0.599 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.15 in  
Overall Height (Metric): 3.8 mm, 3.88 mm  
Overall Length (Imperial): 0.5 in  
Overall Length (Metric): 12.7 mm  
Overall Width (Imperial): 0.15 in, 0.5 in  
Overall Width (Metric): 3.81 mm, 12.7 mm

# 3M™ Bumpon™ Resilient Rollstock SJ5908

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Cushioning Spacer, Cushioning Stop, Dampen Noise/Reduce Vibration, Die Cut Parts for Drink Holder, Gasketing, Surface Protection for Sub-Assembly Racks  
Backing Material: Polyurethane Foam  
Factory ISO Certification: No ISO Certification information available  
Hardness: 36 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Rollstock  
Product Type: Rollstock  
Roll Width (Imperial): 4.5 in, 9 in  
Roll Width (Metric): 114 mm, 229 mm  
Shape: Rollstock  
Width-Diameter Range: 4.00 - 4.99 in, 9.00 - 9.99 in  
Width-Diameter Range (Metric): 100.0 - 199.9 mm, 200.0 - 299.0 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Length (Imperial): 36 yd  
Overall Length (Metric): 32.91 m  
Overall Thickness (Imperial): 0.125 in  
Overall Thickness (Metric): 3.2 mm  
Overall Width (Imperial): 4.5 in, 9 in  
Overall Width (Metric): 11.43 cm, 22.86 cm

# 3M™ Bumpon™ Resilient Rollstock SJ6232

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Cushioning Spacer, Cushioning Stop, Gasketing, Sunroof/Moon roof  
Cushioning Spacer  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.001 - 0.099 in  
Height-Thickness Range (Metric): 0.1 - .99 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Rollstock  
Product Series: SJ6232  
Product Type: Rollstock  
Roll Width (Imperial): 4.5 in, 9 in  
Roll Width (Metric): 114 mm, 229 mm  
Shape: Rollstock  
Width-Diameter Range: 4.00 - 4.99 in, 9.00 - 9.99 in  
Width-Diameter Range (Metric): 100.0 - 199.9 mm, 200.0 - 299.0 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Length (Imperial): 72 yd  
Overall Length (Metric): 65.83 m, 65.84 m  
Overall Thickness (Imperial): 0.031 in, 0.032 in, 0.125 in  
Overall Thickness (Metric): 0.8 mm, 3.2 mm  
Overall Width (Imperial): 4.5 in, 9 in  
Overall Width (Metric): 11.43 cm, 22.86 cm



# 3M™ Twin Axial PCI Express X16 Extender Assemblies Gen 4.0

3M ID B00035486

## Details

Foldable cable is excellent for managing server space, adding system design possibilities

Continuous longitudinal shielding allows for high-bandwidth, resonance free SI performance

Thin ribbon cable construction allows easy routing and cable management

## Typical properties

Application: High-speed Data Transmission

Characteristic Impedance: 85 ohms

Connector Style (End A): Edgecard

Connector Style (End B): Receptacle

Connector Type (End A): ST

Connector Type (End B): ST

Form Factor: PCIe® CEM, PCIe® Card Edge

Number of Cable Assembly Lanes: x16

Number of Conductors: 164

Product Usage: Riser Cables

Protocol: PCIe®

Standard Size: 0.25 m, 0.5 m

Tech Sheet Number: TS-2721

Wire Gauge (Imperial): 31 AWG

eClass 14 Classification Group: 19051003

# **3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14526-EZHB-XXX-0QC**

3M ID B00035637 UPC 00051135217689

## **Details**

10 shielded pairs plus 4 individual wires for high bandwidth applications  
The solution for high speed datacom and telecom applications  
Each differential pair is shielded with foil; entire cable bundle is shielded with foil and braid for additional signal

## **Typical properties**

Cable Length (Imperial): 1.64 ft, 3.281 ft, 6.562 ft, 16.404 ft  
Cable Length (Metric): 0.5 m, 1 m, 2 m, 5 m  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): MDR  
Connector Type (End B): MDR  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Jacket Material: PVC  
Number of Positions: 26  
Shell Material: ABS  
Specifications Met: AWM VW-1  
Tech Sheet Number: TS-0891  
eClass 14 Classification Group: 27060304

## **3M™ Bumpon™ Protective Products SJ5518**

### **Details**

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

### **Typical properties**

Adhesive Type: Natural Rubber (R30)  
Application: Heavier Appliances/Electronic Device Feet - Anti-Skid  
Availability: Stocked  
Backing Material: Polyurethane  
Base Width: 0.500 in  
Base Width (Metric): 12.7 mm  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 5.0 - 5.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Gray  
Product Form: Molded  
Product Series: SJ5518  
Product Type: Bumper  
Shape: Square-Tapered w/ Flat Top  
Width-Diameter Range: 0.500 - 0.599 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

### **Dimensions and Classifications**

Overall Height (Imperial): 0.23 in  
Overall Height (Metric): 5.8 mm  
Overall Length (Imperial): 0.5 in  
Overall Length (Metric): 12.7 mm  
Overall Width (Imperial): 0.23 in  
Overall Width (Metric): 5.84 mm

# 3M™ Bumpon™ Protective Products SJ6122 Black, 3000/Case

3M ID 7010339670 UPC 00021200304354

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Base Width: 0.413 in  
Base Width (Metric): 10.4 mm  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ6122  
Product Type: Bumper  
Shape: Square-Tapered w/ Flat Top  
Width-Diameter Range: 0.400 - 0.499 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.125 in  
Overall Height (Metric): 3.2 mm  
Overall Length (Imperial): 0.402 in  
Overall Length (Metric): 10.21 mm  
Overall Width (Imperial): 0.126 in  
Overall Width (Metric): 3.2 mm

# **3M™ Mini Serial Attached SCSI (miniSAS) Connector/Shell, Right Angle, 8A36/8B36 Series**

3M ID B00036236

## **Details**

- 6 Gb/s input/output connector for server applications
- Surfacemount termination on receptacle
- Multiple tail types available for board assembly on shell guide
- Multiple pin lengths for a range of board thicknesses on shell guide
- Multiple backshell polari

## **Typical properties**

- Tech Sheet Number: TS-2219
- eClass 14 Classification Group: 27440307

# 3M™ Power Backplane Female Connector for ATCA™ Application

3M ID B00036407

## Details

ATCA™ Zone 1 power connector  
Backplane right angle header  
Daughtercard vertical socket  
Compliant to PICMG 3.0 R2.0 (AdvancedTCA™) specification  
High conductivity, precision formed contacts  
Selective plating in compliance with RoHS requirements  
Preci

## Typical properties

Tech Sheet Number: TS-2378  
eClass 14 Classification Group: 27460201

# **3M™ MetPak™ HM Press-Fit Socket, HM Series**

3M ID B00036699

## **Details**

Modular/scalable format IEC 61076-4-101

63 mated lines per linear inch

Dual beam contact construction for high reliability

End-to-end stackable with 5 row 3M™ MetPak™ CP2, HM and HSHM products

Mates with 3M™ MetPak™ HSHM headers

See Regulatory Inform

## **Typical properties**

Tech Sheet Number: TS-2060

eClass 14 Classification Group: 27460201

## 3M™ HDC Socket, HDC Series

3M ID B00036721 UPC 00051119903386

### Details

Ideal for parallel 4-row PCB stacking  
Press-Fit tail requires only flat push tool for installation  
Mates with 4-row single-bay headers and plugs  
Optional feed-through tails  
See Regulatory Information Appendix link for chemical compliance information

### Typical properties

Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Current Rating: 3.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: Mating Guide  
Flammability: UL 94V-0  
Insulation Color: Black  
Insulation Material: Glass Filled Thermoplastic (LCP)  
Insulation Resistance:  $>1 \times 10^3 \text{ M}\Omega$  @ 500 VDC  
Markings: Part Number and Date Code  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 3  $\mu\text{in}$ , 30  $\mu\text{in}$   
Mating Contact Finish Thickness (Metric): 0.76  $\mu\text{m}$ , 0.076  $\mu\text{m}$   
Moisture Sensitivity Level: 1 (Per J-STD-020C)  
Mounting Type: Boardmount  
Number of Contact Rows: 4  
Number of Contacts: 128 , 160 , 200  
PCB Mounting Style: Through Hole  
Packaged Form: Bulk  
Physical Plating Property: 50 microinches [1.27 micrometers] Min. Nickel  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Process Rating: Maximum 260 Degree C (per J-STD-020C)  
Product Series: HDC  
Tech Sheet Number: TS-1138  
Temperature Rating: -55 Degree C to +105 Degree C  
Temperature Rating: USA: -55 Degrees C to +105 Degrees C  
Termination Area: See Ordering Information  
Termination Method: Press Fit, Solder  
UnderPlating Material: 50 micro inches [1.27 micro meter] Min. Nickel  
Wiping Area (Plating): See Ordering Information  
Withstanding Voltage: 900 VAC for 1 minute  
eClass 14 Classification Group: 27460201



# 3M™ Power Clamp Branch Connector H-Type 357 Series

3M Product Number 357 Series 3M ID B00036748 UPC 04519001583574

## Details

Designed for easy installation and secure connections  
Durable and long-lasting for reliable performance  
Compact design allows for efficient use of space  
Compatible with a wide range of electrical applications  
Provides a strong and stable connection fo

## Typical properties

Application: Wire Branching  
Connector Style: Plug & Receptacle  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Nylon  
Number of Contact Rows: 4  
Number of Contacts: 20  
Pitch (Imperial): 0.12 in  
Pitch (Metric): 3 mm  
Product Color: Black  
Specifications Met: China RoHS, RoHS 2011/65/EU  
Tech Sheet Number: TS-2275  
eClass 14 Classification Group: 27460202

# 3M™ Shrunk Delta Ribbon (SDR) Connector, 122XX-1150-00FR, 122 Series

3M ID B00037009 UPC 04547452340347

## Details

Wiper on wiper contact for reliable repetitive mating  
Ground lock for reliable PCB retention  
Full metal face for better EMI shielding effectiveness  
Contacts: 14, 26  
On-board jacksockets maintains a secure connection  
See Regulatory Information Appendi

## Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: PCB Retention  
Insulation Material: Nylon  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin, 8 µin  
Mating Contact Finish Thickness (Metric): 0.2 µm, 0.76 µm  
Maximum Operating Temperature (Celsius): 70 °C  
Maximum Operating Temperature (Fahrenheit): 158 °C  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 14 , 26  
PCB Mounting Angle: Straight  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.031 in  
Pitch (Metric): 0.8 mm  
Product Usage: Boardmount, Electronic Devices  
Shell Material: Steel  
Shell Plating: Nickel  
Specifications Met: RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-2126  
Termination Method: Solder  
eClass 14 Classification Group: 27440307

## **3M™ Shielded Compact Ribbon (SCR) Connectors, 362 Series**

3M Product Number 362 Series 3M ID B00037081 UPC 04547452747832

### **Details**

Mates to all 3M™ Shielded Compact Ribbon (SCR) Boardmount and Wiremount Plugs  
Polarized to provide proper insertion  
Robust ribbon-style contact for reliable, repetitive plugging  
10 contacts can carry signal or power (up to 1 amp per pin)  
Vibration res

### **Typical properties**

Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Nylon  
Mounting Type: Wiremount  
Number of Contact Rows: 2  
Number of Contacts: 10  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Product Color: Silver  
Tech Sheet Number: TS-2227  
eClass 14 Classification Group: 27460201

# 3M™ Polarized Wiremount Socket, CHG Series, CHG-2016-J01010-KEP

3M Product Number CHG Series 3M ID 7000058064 UPC 00054007627258

## Details

Polarized CHG wiremount socket for secure and reliable connection  
Two-row design for increased flexibility and compatibility  
IDC technology for easy and efficient installation  
Polarized design helps guarantee proper mating  
Allows for organized and eff

## Typical properties

Application: Wire-to-board Connecting  
Brands: 3M™  
Compatible Wire Type: Discrete Wire  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin  
Contact Underplating Thickness (Metric): 2.54 µm  
Current Rating: 1.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Polarizing Key  
Insulation Color: Gray  
Insulation Material: Glass Filled Polyester (PBT)  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$   
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Maximum Conductor Size (Imperial): 22 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Conductor Size (Imperial): 24 AWG (Solid), 24 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 16  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Product Series: CHG  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0192  
Termination Method: IDC  
Withstanding Voltage: 500 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

## 3M™ Pak 50 Wiremount Socket, P50E Series

3M Product Number P50E Series 3M ID B00038695 UPC 00051111662175

### Details

Terminates two separate 1.27 mm pitch flat ribbon cables  
Nickel-plated copper alloy base contacts provide excellent connection  
Latch/eject feature helps provide a secure connection  
Accepts 28 AWG cable  
Includes cable strain relief

### Typical properties

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Feed Through, Strain Relief  
Insulation Color: Black  
Insulation Material: Glass Filled Nylon  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$   
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial):  $<10 \mu\text{in}$   
Mating Contact Finish Thickness (Metric):  $<0.25 \mu\text{m}$   
Maximum Conductor Size (Imperial): 28 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Conductor Size (Imperial): 28 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 20 , 26 , 30 , 40 , 50 , 60 , 68 , 80 , 100  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Series: P50E  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-1143  
Termination Method: IDC  
Withstanding Voltage: 650 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

## **3M™ Round Shielded/Jacketed Discrete Wire Cable 3600X Series**

3M Product Number 3600X Series 3M ID B00039374 UPC 00051111622544

### **Details**

Twisted pairs help reduce crosstalk for balanced drive applications  
Dual shielding with aluminum film foil and copper braid provides excellent EMI/ESD protection  
Cable delivers 35 db average shielding effectiveness  
Wires are color coded for easy identi

### **Typical properties**

Application: Crosstalk Reduction, EMI Interference Protection, High-speed Data Transmission, Impedance Control, Networking, Noise Immunity, Power Distribution, RFI Interference Protection, Signal Balancing  
Factory ISO Certification: No ISO Certification information available  
Features: Chemical Resistance  
Insulation Color: Multi-color  
Insulation Material: PVC  
Number of Conductors: 14 , 20 , 24 , 26 , 36 , 40 , 50 , 68 , 80 , 100  
Number of Pairs: 7 , 10 , 12 , 13 , 18 , 20 , 25 , 34 , 40 , 50  
Number of Strands: 7  
Product Usage: Balanced Drive Mechanisms, Box-to-box, Cameras, Computers, Control Modules, IDC Connectors, Monitoring Equipment, Robotics Motors, Sensors  
Specifications Met: China RoHS, RoHS 2011/65/EU  
Tech Sheet Number: TS-0388  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27061801

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft, 200 ft, 300 ft, 500 ft, 1000 ft  
Overall Length (Metric): 30.48 m, 60.96 m, 91.44 m, 152.4 m, 304.8 m

## **3M™ Round, Shielded/Jacketed, Flat Cable, 3659 Series**

3M Product Number 3659 Series 3M ID B00039391 UPC 50076308627985

### **Details**

Efficient flat-cable IDC termination in an easily routable round cable  
For use in a broad range of applications including box-to-box and limited cross-sectional spaces  
Round construction makes for easy routing and cable management  
Twisted flat ribbon c

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Halogen Free: No  
Insulation Color: Gray  
Insulation Material: PVC  
Jacket Color: Black  
Jacket Material: PVC  
Number of Conductors: 9 , 10 , 14 , 15 , 16 , 20 , 24 , 25 , 26 , 34 , 36 , 37 , 40 , 50 , 60 , 64  
Number of Strands: 7  
Pitch (Imperial): 0.025 in  
Pitch (Metric): 0.64 mm  
Specifications Met: China RoHS, RoHS 2011/65/EU, VW-1  
Tech Sheet Number: TS-0083  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27060106

# 3M™ Lapping Film Disc 261X

## Details

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls  
Get a uniform finish on a number of substrates

## Typical properties

Abrasive Material: Aluminum Oxide  
Application: Flat Lapping, Polishing, Superfinishing  
Attachment Type: PSA Back, Plain Back  
Backing Material: Polyester Film  
Backing Thickness (Imperial): 3 mil  
Backing Thickness (Metric): 0.076 mm  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 0.3 µm, 12 µm, 3 µm, 30 µm, 5 µm, 9 µm  
Polishing Process: Step 1: De-Nub/Epoxy Removal, Step 2b: Refine/Level Connector (Ceramic Connector), Step 3: Polish/Finish  
Product Form: Disc  
Product Series: 261X  
Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Optical  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## Dimensions and Classifications

Overall Diameter (Imperial): 5 in, 8 in  
Overall Diameter (Metric): 127 mm, 203.2 mm



## **3M™ Flux Field Directional Material EM25TP**

### **Details**

Absorbing performance from 200 MHz to 4 GHz  
Excellent EMI absorber performance from 500 MHz to 2.5 GHz  
High permeability for magnetic shielding from 100 kHz to 3 MHz  
High magnetic loss  
Flexible  
High DC resistivity  
Multiple thickness options  
Optiona

### **Typical properties**

Application: EMI Absorbing, Magnetic Shielding  
Factory ISO Certification: No ISO Certification information available  
Frequency Range: 1 GHz - 3 GHz, 100 MHz - 1 GHz  
Product Usage: Antennas, Cables, Camera Modules, Display Chip on Flex,  
Flexible Printed Circuits, Printed Circuit Boards, Semiconductor Chips, Sensors  
eClass 14 Classification Group: 27182804

### **Dimensions and Classifications**

Overall Length (Imperial): 12.6 in, 13.386 in, 13.78 in  
Overall Length (Metric): 320 mm, 340 mm, 350 mm  
Overall Thickness (Imperial): 2.362 mil, 4.33 mil, 8.66 mil  
Overall Thickness (Metric): 60 micron, 110 micron, 220 micron  
Overall Width (Imperial): 0.315 in, 12.598 in  
Overall Width (Metric): 320 mm, 340 mm, 342 mm

## **3M™ Round Conductor Flat Cable, HF625 Series**

3M Product Number HF625 Series 3M ID B00039572 UPC 50051111964304

### **Details**

Low-smoke zero-halogen insulation  
Stranded size 28 AWG wire for flexibility and durability  
Halogen-free construction  
1 mm pitch for a sleek and space-saving design  
For applications requiring a high conductor count in limited space  
Reliable performance

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Features: Halogen-free  
Insulation Color: Dark Gray  
Insulation Material: Halogen Free Polyolefin  
Number of Conductors: 6 , 8 , 10 , 12 , 14 , 16 , 18 , 20 , 22 , 24 , 26 , 28 , 30 , 32 , 34 , 36 , 38 , 40 , 44 , 50  
Number of Strands: 7  
Pitch (Imperial): 0.039 in  
Pitch (Metric): 1 mm  
Specifications Met: RoHS 2011/65/EU  
Tech Sheet Number: TS-2338  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 32.81 yd, 109.36 yd  
Overall Length (Metric): 30 m, 100 m

## **3M™ Round Conductor Flat Cable, 3749 Series**

3M Product Number 3749 Series 3M ID B00039606 UPC 00051119929584

### **Details**

Round conductor flat cable with a .025 in. size 30 AWG solid copper conductor for reliable performance  
Flexible and durable TPE insulation for long-lasting use  
For a variety of applications, including electronics and electrical wiring  
Excellent choice

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Gray  
Insulation Material: TPE  
Number of Conductors: 10 , 12 , 14 , 16 , 20 , 24 , 26 , 30 , 34 , 36 , 40 , 50 , 60 , 68 , 80 , 100  
Number of Strands: 1  
Pitch (Imperial): 0.025 in  
Pitch (Metric): 0.635 mm  
Specifications Met: RoHS 2011/65/EU  
Tech Sheet Number: TS-0068  
Wire Size: 30 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft  
Overall Length (Metric): 30.48 m

## **3M™ Round Conductor Flat Cable, 8132 Series**

3M Product Number 8132 Series 3M ID B00039632 UPC 00000000000000

### **Details**

For applications requiring a higher current carrying capability  
Size 18 AWG tinned stranded copper wire provides flexibility and extended cable life

Individually insulated conductors are laminated to a PVC backing which can be zipped apart for easy bran

### **Typical properties**

Application: Mass Termination

Factory ISO Certification: No ISO Certification information available

Insulation Color: Dark Gray

Insulation Material: PVC

Number of Conductors: 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 20

Number of Strands: 19

Pitch (Imperial): 0.156 in

Pitch (Metric): 3.96 mm

Tech Sheet Number: TS-0057

Wire Size: 18 AWG

eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft

Overall Length (Metric): 30.48 m

## **3M™ Round Conductor Flat Cable 3601 Series**

3M Product Number 3601 Series 3M ID B00039701 UPC 00076308633103

### **Details**

- Low dielectric constant for improved signal transmission
- Excellent abrasion resistance for durability
- Chemical resistant for use in harsh environments
- Designed with a stranded conductor for flexibility
- FEP insulation for high-temperature applications

### **Typical properties**

- Application: Mass Termination
- Factory ISO Certification: No ISO Certification information available
- Insulation Color: Blue
- Insulation Material: FEP
- Number of Conductors: 40
- Number of Strands: 7
- Pitch (Imperial): 0.05 in
- Pitch (Metric): 1.27 mm
- Tech Sheet Number: TS-0553
- Wire Size: 28 AWG
- eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

- Overall Length (Imperial): 100 ft
- Overall Length (Metric): 30.48 m

## **3M™ Polycarbonate Carrier Tape 3000R Series**

3M Product Number 3000R 3M ID B5005127017

### **Details**

Reduces pocket opening radius in thin package semiconductor applications  
(component thickness  $\leq 0.15\text{mm}$ )  
Helps minimize component migration and cracks, maximize throughput  
Raised platform helps prevent component tilting and misplacement  
Available in +/-

### **Typical properties**

Application: Electronic Component Packaging  
Material: Polycarbonate  
Product Color: Black  
Product Usage: Bare Die, Discrete Components, ICs, LEDs, Passive  
Components, WLCSP  
Surface Resistance:  $1.0 \times 10^4 \Omega$  -  $1.0 \times 10^8 \Omega$   
eClass 14 Classification Group: 27140708

# 3M™ Lapping Film 466X, Discs

## Details

PSA-backed  
Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## Typical properties

Abrasive Material: Silicon Carbide  
Application: Polishing  
Attachment Type: PSA Back  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 5 µm  
Polishing Process: Step 2b: Refine/Level Connector (Ceramic Connector)  
Product Form: Disc  
Product Series: 466X  
Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Optical  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## Dimensions and Classifications

Overall Diameter (Imperial): 4 in, 8 in  
Overall Diameter (Metric): 101.6 mm, 203.2 mm

# 3M™ Lapping Film Disc 268X

## Details

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## Typical properties

Abrasive Material: Aluminum Oxide  
Application: Buffing, Finishing, Flat Lapping, Polishing, Superfinishing  
Attachment Type: PSA Back  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 0.3 µm  
Polishing Process: Step 3: Polish/Finish  
Product Form: Disc  
Product Series: 268X  
Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Hard Disc Drive Lubers, Media Heads, Optical  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## Dimensions and Classifications

Overall Diameter (Imperial): 4 in, 8 in, 10 in  
Overall Diameter (Metric): 101.6 mm, 203.2 mm, 254 mm



# **3M™ Thermally Conductive Heat Spreading Tape (TCoHST) 9876-15, 500 mm x 50 m**

3M ID 7000008597 UPC 00051115526510

## **Details**

Excellent thermal conductivity on plane direction ( >210-250 W/m-K)  
Excellent flexibility  
Selective thermal spreading path for uniform heat distribution  
Excellent electrical insulation  
High performance acrylic adhesive provides excellent adhesion to A

## **Typical properties**

Adhesive Type: Acrylic  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Product Color: Brown  
Total Tape Thickness without Liner (Imperial): 5.9 mil  
Total Tape Thickness without Liner (Metric): 0.15 mm

## **Dimensions and Classifications**

Overall Length (Imperial): 54.68 yd  
Overall Length (Metric): 50 m  
Overall Width (Imperial): 19.69 in  
Overall Width (Metric): 500 mm  
Thermal Conductivity (X-Y Axis): 250 W/m-K  
Thermal Conductivity (Z Axis): 0.5 W/m-K

## **3M™ Textool™ Test & Burn-In IPGA Sockets**

3M ID B10452880 UPC 00051111904466

### **Details**

17 x 17 outer matrix with 16 x 16 inner staggered matrix holds up to 432 leads  
Lever actuated zero insertion force mechanism  
Rugged 3-plate construction for durability and electrical reliability  
Accommodate two lead diameter variations  
.25 - .40 mm (.010 - .016 inches)

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: TS-1353  
eClass 14 Classification Group: 27261708

# 3M™ Electrically Conductive Adhesive Transfer Tape 9707, 14 in x 108 yd, 1 Roll/Case

Part Number 9707 3M ID 7000001363 UPC 00051115524196

## Details

Can be applied/assembled at room temperature  
Isotropic XYZ-axis electrical connectivity  
Bond line Gap/Split shielding for high frequency  
Low contact R to SS  
Tape 9707 offers lower contact resistance to hard surfaces, surfaces with oxide layers  
Can be

## Typical properties

Adhesive Type: Acrylic  
Application: Grounding  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Product Usage: Flexible Printed Circuits, Sensors  
Total Tape Thickness without Liner (Imperial): 2 mil  
Total Tape Thickness without Liner (Metric): 0.05 mm

## Dimensions and Classifications

Overall Length (Imperial): 108 yd  
Overall Length (Metric): 98.755 m  
Overall Width (Imperial): 14 in  
Overall Width (Metric): 355.6 mm

## **3M™ Pin Strip Header, 951 Series, 951108-4620-AR-PR**

3M ID 7010409989 UPC 00051131123212

### **Details**

High temperature dielectric

“No lead” reflow solder compatible

Maximizes use of PC board space

End stackable feature

Mates with boardmount and wiremount products

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical complian

### **Typical properties**

Application: Board-to-board Connecting, Wire-to-board Connecting

Factory ISO Certification: No ISO Certification information available

Tech Sheet Number: TS-2158

eClass 14 Classification Group: 27460201

## **3M™ Industrial M12 Wiremount Connector A-code 3N304 Series**

3M ID B00016061 UPC 04548623883625

### **Details**

Compact size; female connector: 40 mm

Solder termination for AWG 20 to 24 wire cable compatibility

IP68 protection

See Regulatory Information Appendix link for chemical compliance information

For more information refer to Customer Drawing 78-5100-2560

### **Typical properties**

Connector Style: Receptacle

Factory ISO Certification: No ISO Certification information available

Keyed: No

Mounting Type: Wiremount

Number of Contacts: 4 , 8

Tech Sheet Number: TS-2560

Termination Method: Solder Cup

eClass 14 Classification Group: 22560314

## 3M™ MetPak™ 2-FB Power Header, MP2 Series

3M ID B00050390 UPC 00051111762851

### Details

6.50 Amps per contact  
Early mate late break (EMLB) for hot swap or selective loading options  
End-to-end stackable  
Optional feed-through tail (Press-Fit)  
Futurebus+® compatible  
See Regulatory Information Appendix (last page of Tech Data Sheet) for che

### Typical properties

Connector Style: Pin Header  
Current Rating: 6.5 A  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Beige  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Mounting Type: Boardmount  
Number of Contact Rows: 4 , 5  
Number of Contacts: 8 , 10  
PCB Mounting Style: Through Hole  
Packaged Form: Tube  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Product Series: MP2  
Tech Sheet Number: TS-1126  
Termination Method: Press Fit  
Withstanding Voltage: 1,500 VAC for 60 seconds  
eClass 14 Classification Group: 27460201

## **3M™ Cable Accessory, DS/FS Series**

3M ID B00027475 UPC 04901690103629

### **Details**

Conductive high flex shielding sleeve for inter and intra cabinet cable applications  
Greater than 50 million flex cycles at 1.5 inch radius  
25 db average shielding effectiveness  
For more information refer to Data Sheet TS0713 (TS-0713)

### **Typical properties**

Product Color: Silver  
Product Type: Shielding Sleeve  
Roll Length: 328 Linear Foot  
Tech Sheet Number: TS-0713  
eClass 14 Classification Group: 15090300

## 3M™ Boardmount Socket, 960 Series

3M ID B30000105 UPC 54046719183420

### Details

High temperature dielectric  
“No lead” wave and reflow solder compatible  
Single- and dual row design, 2–36 pins or 4–72 pins  
Housing height options: 8.5 mm and 7.1 mm  
Mates with pin-strip header products  
See Regulatory Information Appendix (last page)

### Typical properties

Application: Board-to-board Connecting  
Contact Base Material: Copper Alloy  
Contact Termination Area Plating Material: Matte Tin  
Contact Termination Area Plating Thickness (Imperial): 40 µin - 118 µin  
Contact Termination Area Plating Thickness (Metric): 1 µm - 3 µm  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin - 100 µin  
Contact Underplating Thickness (Metric): 1.25 µm - 2.5 µm  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Black  
Insulation Material: High Temperature Thermoplastic  
Insulation Resistance:  $>5 \times 10^8 \Omega @ 100 \text{ VDC}$   
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -25 °C  
Minimum Operating Temperature (Fahrenheit): -13 °F  
Moisture Sensitivity Level: 1 (Per J-STD-020C)  
Number of Contact Rows: 1 , 2  
Number of Contacts: 6 , 16  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-2187  
eClass 14 Classification Group: 27460201



## 3M™ Pak 50 I/O Plug, P50 Series

3M ID B30000125 UPC 00051111745830

### Details

P50 Plug offers straight and right angle through-hole options  
Right angle P50 Plug comes with and without retention clips  
Latch/eject mechanism maintains a secure connection  
Mates to the P50 wiremount socket  
RoHS compliant  
For more information, refer

### Typical properties

Application: Board-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Plug  
Contact Base Material: Phosphor Bronze  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Retention Feature  
Insulation Color: Black  
Insulation Height (Imperial): 0.276 in, 0.421 in  
Insulation Height (Metric): 7 mm, 10.7 mm  
Insulation Material: Glass Filled Polyamide Nylon  
Latch/Ejector Type: Latch Holder  
Mating Contact Finish Material: Gold  
Mating Option: Board to Board, Board to Cable, Board to Wire  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 30 , 50  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Panel Mount, Through Hole  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 0.05 mm  
Post Contact Finish Material: Gold  
Product Series: P50  
Shroud Style: 4 Wall  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-1162  
Voltage Rating: 650 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

## 3M™ Polarized Boardmount Socket, 5100 Series

3M Product Number 5100 Series 3M ID B30000142 UPC 04547452514199

### Details

Centerbump polarization makes for accurate connection and helps minimize rework

Mates with standard low profile shrouded headers

Individual part numbers for easy identification and mating

Optional keying plug helps maximize accurate connections

Confi

### Typical properties

Application: Board-to-board Connecting

Connector Shape: Rectangular

Connector Style: Receptacle

Contact Base Material: Copper Alloy

Current Rating: 1.0 A

Factory ISO Certification: No ISO Certification information available

Features: Mounting Flange, Polarizing Key

Insulation Color: Gray

Insulation Height (Imperial): 0.35 in

Insulation Height (Metric): 8.89 mm

Insulation Material: Glass Filled Polyester (PBT)

Latch/Ejector Type: Push-in/Pull-out

Mating Contact Finish Material: Gold

Mating Contact Finish Thickness (Imperial): >8 µin

Mating Contact Finish Thickness (Metric): >0.2 µm

Mating Option: Board to Board, Board to Cable

Maximum Operating Temperature (Celsius): 105 °C

Maximum Operating Temperature (Fahrenheit): 221 °F

Minimum Operating Temperature (Celsius): -55 °C

Minimum Operating Temperature (Fahrenheit): -67 °F

Number of Contact Rows: 2

Number of Contacts: 10 , 20 , 26 , 30 , 34 , 40 , 50 , 60

PCB Mounting Angle: Right Angle

PCB Mounting Style: Through Hole

Pitch (Imperial): 0.079 in

Pitch (Metric): 0.1 mm

Post Contact Finish Material: Gold

Product Series: 5100

Specifications Met: UL 94V-0

Tech Sheet Number: TS-0414

Voltage Rating: 1000 V

eClass 14 Classification Group: 27460201

# 3M™ Through-Board Socket, 966 Series

3M ID B30000159 UPC 00076308790288

## Details

High temperature dielectric  
“No lead” reflow solder compatible  
Dual row design, 4–60 pins  
Mates with pin headers for board stacking applications  
Dual entry design allows mating from top side or bottom side through the printed circuit board  
For regula

## Typical properties

Application: Board-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Current Rating: 2.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: Bottom or Top Entry, Pick & Place  
Insulation Color: Black  
Insulation Height (Imperial): 0.197 in  
Insulation Height (Metric): 5 mm  
Insulation Material: Thermoplastic  
Latch/Ejector Type: Push-in/Pull-out  
Mating Contact Finish Material: Gold Flash  
Mating Contact Finish Thickness (Imperial): <10 µin  
Mating Contact Finish Thickness (Metric): <0.25 µm  
Mating Option: Board to Board  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -25 °C  
Minimum Operating Temperature (Fahrenheit): -25 °F  
Number of Contact Rows: 2  
Number of Contacts: 6 , 10 , 20 , 30 , 40  
PCB Mounting Style: Surface Mount  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 0.1 mm  
Post Contact Finish Material: Tin  
Product Series: 966  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-2652  
Voltage Rating: 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

## **3M™ Round Conductor Round Cable for CC-Link, 79100 Series**

3M ID B10398560

### **Details**

Designed for factory automation applications  
Conforms to CC-Link Ver 1.10  
Recommended for use with 3M™ Power Clamp Connectors 35505-6000-BOM  
GF  
0.50 mm<sup>2</sup> [20 AWG] conductor wire permits IDC termination  
Drain wire allows easy grounding of shield  
RoHS C

### **Typical properties**

Conductor Material: Tinned Copper  
Halogen Free: No  
Insulation Color: Multi-color  
Jacket Material: PVC  
Number of Conductors: 3  
Tech Sheet Number: TS-2321  
Wire Size: 20 AWG  
eClass 14 Classification Group: 27061801

## **3M™ Mini Delta Ribbon (MDR), 10268-5JBEP, 102 Series**

3M ID B10406081

### **Details**

Wiper-on-wiper contact for reliable repetitive plugging  
Rugged die cast metal case construction  
Ground lock for reliable PCB retention  
Interface latch design for connection stability  
68 contacts  
Reverse pin layout pattern – SCSI-2 layout compatible

### **Typical properties**

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin  
Contact Underplating Thickness (Metric): 2.54 µm  
Current Rating: 1.0 A  
Features: PCB Retention  
Insulation Material: Glass Filled Polyester (PBT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 68  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Boardmount, Electronic Devices  
Tech Sheet Number: TS-2216  
Termination Method: Solder  
eClass 14 Classification Group: 27440307

# **3M™ MetPak™ Lower Shield, CP2 Series**

3M ID B10406874

## **Details**

For more information refer to Data Sheet TS2040 (TS-2040)

## **Typical properties**

Tech Sheet Number: TS-2040

eClass 14 Classification Group: 27460201

# **3M™ Water Contact Indicator Tape 5557**

3M ID B10091744

## **Details**

Film top layer is printable by thermal transfer, flexographic, and screen printing methods and offers improved ink receptivity

The film top layer also provides protection from soiling and moisture during handling

Paper backing is highly absorbent and tr

## **252-4204-00=QFN.4MM/52POS/W/ OTPODDROW**

3M ID 7000031335 UPC 50051115601786

### **Details**

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2449-6

### **Typical properties**

- Factory ISO Certification: No ISO Certification information available
- Tech Sheet Number: TS-2449
- eClass 14 Classification Group: 27261708



# **3M™ Locator Plates for 3M™ Connectors**

3M ID B00036083 UPC 54901690056906

## **Typical properties**

Factory ISO Certification: No ISO Certification information available  
For Use With: Standard Sockets  
Tech Sheet Number: FA-0010

# **3M™ Mini Serial Attached SCSI (miniSAS) Connector, RA Surface Mount, 8A26/8C26 Series**

3M ID B00036242

## **Details**

6.0 Gbps aggregate input/output connector for server applications  
1 × 1 and 1 × 2 screw mounted cages for external cable assembly applications  
Meets SFF-8086 Specification  
Meets SFF-8088 Specification  
Meets SAS Specification, SAS-1.1  
Multiple cage ke

## **Typical properties**

Connector Style: Receptacle  
Current Rating: 0.5 A  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 26  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Surface Mount  
Tech Sheet Number: TS-2211  
eClass 14 Classification Group: 27440307

## **3M™ Card-Edge, XXXX-0002, 3000 Series**

3M ID B00036342

### **Details**

Reinforced card-edge resists mouth bowing for consistent contact performance  
Standard slotted mounting flanges  
Metal cover clips provide superior cover retention  
Bifurcated contacts provide reliable contact with PC boards  
Keying plug 3439-2 provides p

### **Typical properties**

Tech Sheet Number: TS-0011  
eClass 14 Classification Group: 27440211

# 3M™ Novec™ 1908 Electronic Grade Coating

## Details

Designed for moisture and corrosion protection of printed circuit boards and electronic components  
Low surface energy allows lubricating oils, silicones, photoresist solutions, etc. to bead and drain freely from coated surfaces  
Helps provide repellency

## Typical properties

Application: Anti-stiction, Chemical Protection, Corrosion Protection, Moisture Protection, Protecting  
Application Method: Brush, Dip, Selective Dispense, Spray  
Brands: Novec™  
Coating Location: Electronic Device Components  
Coating Thickness Range (Metric): 0.8 µm - 1.3 µm  
Dielectric Constant: 3.2  
Dielectric Strength: 2000 V/mil  
Dissipation Factor: 0.002  
Factory ISO Certification: No ISO Certification information available  
Net Weight (Imperial): 0.18 lb, 11 lb  
Net Weight (Metric): 5 kg, 81 g  
Polymer Type: Fluoroacrylate  
Product Series: Novec 1908  
Removability: Removable with 3M™ Novec™ Engineered Fluid 7200, Removable with 3M™ Novec™ Engineered Fluid 72DA, Removable with 3M™ Novec™ Engineered Fluid 73DE  
Specifications Met: RoHS 2011/65/EU  
Thermal Cure Time & Temperature: No Need to Cure  
UV Detectable: No  
Volume (Imperial): 0.75 gal, 2 fl oz  
Volume (Metric): 2.84 L, 59.147 mL  
eClass 14 Classification Group: 27400113

## 3M™ MetPak™ 2-FB Socket, MP2 Series

3M ID B00036474 UPC 10051115263030

### Details

End-to-end stackable  
Offset dual-beam contact minimizes insertion force  
Molded guide fingers provide integrated alignment  
Alignment wafer for true position  
Mates with MP2-P inverse headers and elevated inverse headers, MP2-PXXXE,  
for extended card app

### Typical properties

Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Current Rating: 1.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Board Lock, Spacer  
Flammability: UL 94V-0  
Insulation Color: Beige  
Insulation Material: High Temperature LCP  
Insulation Resistance:  $10^3$  MegaOhms  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30  $\mu$ in  
Mating Contact Finish Thickness (Metric): 0.76  $\mu$ m  
Moisture Sensitivity Level: 1 (Per J-STD-020C)  
Mounting Type: Boardmount  
Number of Contact Rows: 5  
Number of Contacts: 30 , 60 , 90  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Packaged Form: Bulk  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Process Temperature Rating: 260 Degrees C (Profile per J-STD-020C)  
Product Series: MP2  
Solder Tails: See Ordering Information  
Tech Sheet Number: TS-1117  
Temperature Rating: -55 Degree C to +125 Degree C  
Termination Method: Solder  
UnderPlating Material: 50 micro inches [1.27 micro meter] Nickel  
Wiping Area (Plating): See Ordering Information  
Withstanding Voltage: 1000 VAC  
eClass 14 Classification Group: 27460201

## 3M™ CP2 Press-Fit Header, CP2 Series

3M ID B00036508 UPC 00051119905687

### Details

25 mm basic system unit

50 mm module

2 mm grid spacing allows for high signal density at low cost

“Eye of the Needle” compliant pin press-fit design reduces manufacturing time and cost

Three contact mating levels for Early Mate Late Break or “Hot Swap

### Typical properties

Connector Style: Pin Header

Contact Base Material: Copper Alloy

Contact Resistance:  $\leq 20$  MilliOhms

Current Rating: 1.0 A

Factory ISO Certification: No ISO Certification information available

Flammability: UL 94V-0

Insulation Color: Beige

Insulation Material: Glass Filled Polyester (PBT)

Insulation Resistance:  $\geq 10,000$  MegaOhm

Mating Contact Finish Material: Gold

Mating Contact Finish Thickness (Imperial): 10  $\mu$ m, 30  $\mu$ m

Mating Contact Finish Thickness (Metric): 0.76  $\mu$ m, 0.25  $\mu$ m

Mating Force:  $\leq 0.75$ N/PIN

Mating and Un-mating Operations: 50

Mounting Type: Boardmount

Number of Contact Rows: 5 , 7

Number of Contacts: 110 , 154

PCB Mounting Style: Through Hole

Packaged Form: Bulk

Pitch (Imperial): 0.079 in

Pitch (Metric): 2 mm

Product Series: CP2

Tech Sheet Number: TS-2265

Temperature Rating: -40 Degree C to +85 Degree C

Termination Method: Press Fit

Test Voltage: 750 VAC (rms)

Withdrawl Force:  $\geq 0.15$ N/PIN

Withstanding Voltage: 750 Vrms

eClass 14 Classification Group: 27460201

## **3M™ HSHM Guide Pin and Guide Socket, HSHM Series**

3M ID B00036526 UPC 00076308096694

### **Details**

Robust metal guide pin and guide socket  
Compatible with CompactPCI(R), HM, HSHM, and UHM backplane systems  
Equipped with Loctite DRI-LOC 204  
Guide pin threads equipped with Loctite DRI-LOC 204  
Lead free  
See Regulatory Information Appendix link for ch

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Guide Pin Material: Stainless Steel  
Guide Socket Material: Zinc Alloy  
Material: Stainless Steel, Zinc Alloy  
Product Type: Guide Socket  
Tech Sheet Number: TS-2095  
eClass 14 Classification Group: 27440292

## **3M™ HM Press-Fit Socket, 8 Rows, HM Series**

3M ID B00036684

### **Details**

Modular/scalable format IEC 61076-4-101  
101 mated lines per linear inch  
Dual beam contact construction for high reliability  
End-to-end stackable with 8-row 3M™ HM and HSHM Sockets  
Mates with 3M™ HSHM Headers  
For more information, refer to Customer Dr

### **Typical properties**

Tech Sheet Number: TS-2516  
eClass 14 Classification Group: 27460201



## **3M™ HDC Header, HDC Series**

3M ID B00036723

### **Details**

High density, up to 240 contacts single bay

Early Mate Late Break (EMLB) grounding contacts for hot swapping

Mates with 3-row and 4-row sockets

See Regulatory Information Appendix link for chemical compliance information

For more information, refer to

### **Typical properties**

Tech Sheet Number: TS-1136

eClass 14 Classification Group: 27460201

## 3M™ Power Clamp Wiremount Plug, 358 Series

3M Product Number 358 Series 3M ID B00036750 UPC 04547452935895

### Details

Insulation-displacement connector (IDC) technology for easy installation and secure connection

Panel mount option for convenient and professional installation

Compact design with a 3 mm contact pitch for space-saving solutions

Compatible with CC-Link C

### Typical properties

Application: Wire-to-wire Connecting

Connection Type: IDC

Connector Style: Plug

Factory ISO Certification: No ISO Certification information available

Insulation Material: Nylon

Maximum Conductor Size (Imperial): 18 AWG, 20 AWG

Maximum Conductor Size (Metric): 0.5 mm<sup>2</sup>, 0.75 mm<sup>2</sup>

Minimum Conductor Size (Imperial): 18 AWG, 20 AWG

Minimum Conductor Size (Metric): 0.5 mm<sup>2</sup>, 0.75 mm<sup>2</sup>

Mounting Type: Wiremount

Number of Contact Rows: 1

Number of Contacts: 5

Pitch (Imperial): 0.12 in

Pitch (Metric): 3 mm

Product Color: Black, Blue, Red, Transparent, Yellow

Specifications Met: China RoHS, RoHS 2011/65/EU

Tech Sheet Number: TS-2285

Termination Method: IDC

eClass 14 Classification Group: 27460202

# 3M™ Mini Delta Ribbon (MDR) Junction Shell 103XX-1230-00

3M ID B00036870 UPC 00051138405946

## Details

Metal junction shell for flat cable  
Rugged two-piece metal shells for high-performance pleated foil cable assemblies (compatible with 101XX-6000 EC plug)  
Kit includes conductive gasket for superior cable shield to shell continuity  
Accepts 3M 50 Ohm PFC

## Typical properties

Compatible Cable Shape: Flat  
Compatible Number of Contacts: 26 , 36 , 40  
Factory ISO Certification: No ISO Certification information available  
For Use With: MDR Connectors  
Markings: 3M Logo, Part Identification Number  
Material: Zinc  
Number of Cable Entries: 1  
Plating Material: Nickel  
Product Color: Silver  
Product Type: Junction Shell  
Tech Sheet Number: TS-0655  
eClass 14 Classification Group: 27440213

## Dimensions and Classifications

Overall Thickness (Imperial): 0.02 in

## **3M™ Solder Cup D Sub Socket, 8000 Series, 8R09-N001**

3M Product Number 8000 Series 3M ID 7010500450 UPC 00051115598067

### **Details**

- Available with or without EMI filter
- Earns a UL94v-0 flammability rating
- Gold flash and 30 μ plating available
- Available in a variety of industry sizes/positions (9-50)
- RoHS compliant
- Easy and secure wire connections

### **Typical properties**

- Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating
- Brands: 3M™
- Factory ISO Certification: No ISO Certification information available
- Features: PCB Retention
- Number of Contact Rows: 2
- Number of Contacts: 9
- Product Usage: Electronic Devices, Wiremount
- Tech Sheet Number: TS-2402
- eClass 14 Classification Group: 27440307

## 3M™ Mini Delta Ribbon (MDR), X102XX-55X3XX, 102 Series

3M ID B00037038 UPC 04547452262588

### Details

Wiper-on-wiper contact for reliable repetitive plugging  
Surfacemount compatible PCT insulator material  
Ground lock PCB retention  
Interface latch design for connection stability  
MDR digital LCD interface as a 20 or 26 contact connector  
Contacts: 14, 2

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin, 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm, 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: PCB Retention  
Insulation Material: Glass Reinforced Polyester (PCT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin, 8 µin  
Mating Contact Finish Thickness (Metric): 0.2 µm, 0.76 µm  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 14 , 20 , 26 , 36 , 40 , 50 , 68  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Boardmount, Electronic Devices  
Shell Material: Steel  
Shell Plating: Nickel  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0621  
Termination Method: Solder  
eClass 14 Classification Group: 27440307

# 3M™ Mini Delta Ribbon (MDR) Junction Shell 103XX-3210-00X

3M ID B00037093 UPC 04549395371204

## Details

Durable one piece plastic over two piece metal junction shell for straight round cable (compatible with 101XX-6000 EC plug)  
Quick release latching  
MDR digital LCD Interface as a 20 or 26 contact connector  
Contacts: 14, 20, 26, 36, 40, 50 and 68  
RoHS c

## Typical properties

Compatible Cable Shape: Round  
Compatible Number of Contacts: 14 , 20 , 26 , 36 , 40 , 50 , 68  
Connector Style: Plug  
Factory ISO Certification: No ISO Certification information available  
Flammability: UL 94V-0  
For Use With: MDR Connectors  
Inner Shell Material: Steel, .02 [ 0.5] Thick  
Inner Shell Plating: Nickel  
Insulation Flammability Rating: UL 94V-0  
Markings: 3M Logo and Part Number, 3M Logo, Part Identification Number  
Material: Steel  
Mounting Type: Wiremount  
Number of Cable Entries: 1  
Number of Contact Rows: 2  
Outer Shell Material: ABS  
Plating Material: Nickel  
Product Color: Beige, Black, Gray  
Product Type: Junction Shell  
Shell Material: ABS  
Tech Sheet Number: TS-0571  
eClass 14 Classification Group: 27440213

## Dimensions and Classifications

Overall Thickness (Imperial): 0.02 in

# 3M™ Novec™ 71DA Engineered Fluid

## Details

- Non-flammable
- Non-conductive
- Low toxicity
- Low Global Warming Potential (GWP)
- Zero ozone depletion potential
- Low surface tension penetrates tight spaces for improved cleaning
- Excellent for removal of ionic contamination

## Typical properties

Application: Cleaning, Deposition Solvent, Immersion Cleaning, Lubricant Deposition, Precision Cleaning, Solvent Cleaning, Vapour Degreasing

Boiling Point (Celsius): 40 °C  
Boiling Point (Fahrenheit): 104 °F

Brands: Novec™

Cleaning Strength: Medium Duty

Compatible Fluorochemical: Fluorosilicone, Silicone

Density (Imperial): 83.029 lb/ft<sup>3</sup>  
Density (Metric): 1.33 g/cm<sup>3</sup>

Dielectric Strength Range: <20 kV

Factory ISO Certification: No ISO Certification information available

Fluorocarbon Solubility: Medium

GWP (IPCC 2007): 157 (100 yr ITH)

GWP Range: Low

Hydrocarbon Solubility: High

Maximum Use Temperature (Celsius): 150 °C  
Maximum Use Temperature (Fahrenheit): 302 °F

Net Weight (Imperial): 11 lb, 55 lb, 550 lb  
Net Weight (Metric): 4.99 kg, 24.95 kg, 249.48 kg

Plastic Elastomer Compatibility: Requires Customer Testing

Pour Point (Celsius): -135 °C  
Pour Point (Fahrenheit): -211 °F

Product Series: Novec 71DA

Product Usage: Deposition Solvent

Replacement For: 4310-SMT, AK-225 AES, CFC-113, HCFC-141b, HCFCs, HFCs, TCE, nPB

Substrate: Silicone, Solvent-resistant Plastic

Volume (Imperial): 1 gal, 5 gal, 55 gal  
Volume (Metric): 3.79 L, 18.93 L, 208.2 L

eClass 14 Classification Group: 23060490

# **3M™ Lapping Film 863XW, 0.02 Micron Sheet, 6 in x 6 in, 50/Inner, 500/Case**

3M ID 7000044738 UPC 00051111562406

## **Details**

High Yield, increased throughput  
Consistent protrusion values  
Low insertion loss and back reflection

## **Typical properties**

Abrasive Material: Silicon Dioxide  
Application: Final Polishing, Flat Lapping  
Attachment Type: Plain Back  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 0.02 µm  
Polishing Process: Step 3: Polish/Finish  
Product Form: Sheet  
Product Series: 863XW  
Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Optical  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## **Dimensions and Classifications**

Overall Length (Imperial): 6 in  
Overall Length (Metric): 152.4 mm  
Overall Width (Imperial): 6 in  
Overall Width (Metric): 152.4 mm



# **3M™ SlimLine Twin Axial Cable Assembly, SFF-8654, 8ES4, x4, 85ohm, 30AWG**

3M ID B5000000276

## **Details**

- x4 configuration
- SFF-8654 straight and right angle
- Signal wire size 30 AWG
- Standard lengths 0.5 m, 0.75 m, and 1 m
- PCIe (85 ohm) applications
- Custom folded assemblies available
- Thin ribbon cable construction allows for dense routing, routing options

## **Typical properties**

- Connector Style (End A): Plug
- Connector Style (End B): Plug
- Connector Type (End A): ST
- Connector Type (End B): ST
- Number of Cable Assembly Lanes: x4
- Number of Conductors: 38
- Product Series: 8ES4
- Standard Size: 0.75 m, 1.0 m, 0.5 m
- Tech Sheet Number: TS-2666
- Wire Gauge (Imperial): 30 AWG
- eClass 14 Classification Group: 19051003

# 3M™ Novec™ 72FL Engineered Fluid

## Details

- Fast drying, low odor
- Non-flammable
- Excellent plastics compatibility
- Low toxicity
- No rinsing and no residues
- Low Global Warming Potential (GWP)
- Non corrosive, non-conductive

## Typical properties

- Application: Rinsing, Solvent Cleaning
- Boiling Point (Celsius): 45 °C
- Boiling Point (Fahrenheit): 113 °F
- Cleaning Strength: Medium Duty
- Density (Imperial): 87.399 lb/ft<sup>3</sup>
- Density (Metric): 1.4 g/cm<sup>3</sup>
- Dielectric Strength Range: 20 kV - 35 kV
- Factory ISO Certification: No ISO Certification information available
- Fluorocarbon Solubility: High
- GWP (IPCC 2007): 71 (100 yr ITH)
- GWP Range: Very Low
- Hydrocarbon Solubility: Medium
- Maximum Use Temperature (Celsius): 150 °C
- Maximum Use Temperature (Fahrenheit): 302 °F
- Net Weight (Imperial): 10 lb, 53 lb, 558 lb
- Net Weight (Metric): 4.54 kg, 24 kg, 253 kg
- Plastic Elastomer Compatibility: Requires Customer Testing
- Pour Point (Celsius): -38 °C
- Pour Point (Fahrenheit): -36 °F
- Product Series: Novec 72FL
- Replacement For: CFCs, HFCs, TCE, nPB
- Substrate: ABS/Polycarbonate, Acrylic, Silicone, Solvent-resistant Plastic
- Volume (Imperial): 1 gal, 5 gal, 55 gal
- Volume (Metric): 3.79 L, 22.73 L, 208.2 L
- eClass 14 Classification Group: 23060490

# **3M™ Metal Shielding Gasket MSG6100F, 385 mm x 10 m x 1 mm, 1/Case**

3M ID 7100180560 UPC 06912504998414

## **Details**

Conductive Foam laminated with fabric allows large compression for wide gap range use  
3M conductive acrylic pressure-sensitive adhesive has high adhesion and good XYZ-axis conductivity  
Removable liner for easy handling and die-cutting  
Halogen-free\*

## **Typical properties**

Adhesive Type: Acrylic  
Application: EMI Shielding, Electrostatic Discharge (ESD), Gap Filling, Grounding  
Backing Material: Conductive Fabric  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Material: Polyurethane Plated with Copper/Nickel  
Product Color: Gray  
Product Usage: Bond Line Gaps, Printed Circuit Boards, Sensors  
Total Tape Thickness without Liner (Imperial): 39.37 mil  
Total Tape Thickness without Liner (Metric): 1 mm  
eClass 14 Classification Group: 27140708

## **Dimensions and Classifications**

Overall Length (Imperial): 32.81 ft  
Overall Length (Metric): 10 m  
Overall Width (Imperial): 15.16 in  
Overall Width (Metric): 385 mm

## 3M™ .100" Wiremount IDC Socket Accessories

3M ID B5005028015 UPC 08887862428737

### Details

For more information refer to Data Sheet TS0720 (TS-0720)

### Typical properties

Compatible Number of Contacts: 8 , 10 , 14 , 16 , 20 , 24 , 26 , 30 , 34 , 36 , 40 , 44 , 50 , 60

Contact Base Material: Copper Alloy

Factory ISO Certification: No ISO Certification information available

Flammability: UL 94V-0

For Use With: IDC Connectors

Insulation Resistance: >  $1 \times 10^9$  Ohm at 500 VDC

Material: Glass Filled Polyester (PBT), Plastic, Stainless Steel

Mounting Option: None

Product Type: Keying Plug, Pull Tab, Strain Relief

Strain Relief Material: Stainless Steel - .012 [0.30] thick

Tech Sheet Number: TS-0720

Temperature Rating: -55 Degree C to +105 Degree C

Underplating and U-Slot: 100 micro inches [2.54 micro meter] Nickel-QQ-N-290, Class 2

Wire Accommodation: 26 & 28 AWG Solid and Stranded

Withstanding Voltage: 1000 Vrms at Sea Level

eClass 14 Classification Group: 27440392

### Dimensions and Classifications

Overall Length (Imperial): 0.5 in, 2.5 in, 3.1 in

Overall Length (Metric): 12.7 mm, 63.5 mm, 78.74 mm

## **3M™ HSHM Press-Fit Header, 5-Row, HSHM Series**

3M ID B5005034040

### **Details**

- Up to 5 Gbps data rates
- Low crosstalk at high frequencies
- 50/100 Ohm (single-ended /differential) impedance
- Modular/scalable format IEC 61076-4-101
- 63 mated lines per linear inch
- End-to-end stackable with 5 row 3M™ CP2, HM and HSHM Headers
- For more

### **Typical properties**

- Tech Sheet Number: TS-2633
- eClass 14 Classification Group: 27460201

## **3M™ Pak 10 Media Plug, PK10M Series**

3M ID B5005032003

### **Details**

1 mm pitch connector system

Low profile 2 mm mated height

Surface mount retention clips reduce stress on surface mount leads

Keyed design helps prevent mating misalignment

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical

### **Typical properties**

Application: Board-to-board Connecting

Tech Sheet Number: TS-1151

eClass 14 Classification Group: 27460201

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 260-4204-01

3M ID 7010395446 UPC 00051115601859

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2459-5

## Typical properties

- Brands: Textool™
- Factory ISO Certification: No ISO Certification information available
- Tech Sheet Number: TS-2459
- eClass 14 Classification Group: 27261708

## **3M™ Polycarbonate Ultra Precision Carrier (UPC) 3000UP**

3M Product Number 3000UP 3M ID B5005037056

### **Details**

Ultra precision carrier for packaging smaller and thinner static sensitive components of 1mm x 1mm or below  
Pocket dimensional tolerance at +/- 0.03 mm with 0.12 mm - 0.2 mm pocket hole  
Small draft angle and flat pocket bottom helps contain component se

### **Typical properties**

Application: Electronic Component Packaging  
Material: Polycarbonate  
Product Color: Black  
Product Usage: Bare Die, Discrete Components, ICs, LEDs, Passive Components, WLCSP  
Surface Resistance:  $1.0 \times 10^4 \Omega$  -  $1.0 \times 10^8 \Omega$   
eClass 14 Classification Group: 27140708



## **3M™ Transparent Conductor Film 3M23-MS, 450 mm x 450 mm, 5 Ea/Case**

3M ID 7100329658 UPC 08887862982116

### **Details**

High transparency (>80% open area)  
Proprietary copper grid conductive layer  
Implemented in low-profile antennas achieving VSWR, PIM and gain requirements that are typical for non-transparent antennas  
Flexible PET substrate  
High efficiency (<0.05 ohms)

### **Typical properties**

Application: CPE/Repeater Antennas, DAS, Fleet Management, Infrared Sensors, Inventory Management, Neutral Host, Public Safety, Small Cell  
Application Type: In-building Wireless, IoT, Outdoor Wireless  
Brands: 3M™  
Product Color: Transparent

### **Dimensions and Classifications**

Overall Length (Imperial): 17.717 in  
Overall Length (Metric): 450 mm  
Overall Width (Imperial): 17.717 in  
Overall Width (Metric): 450 mm

## **3M™ Bumpon™ Protective Products SJ5202 Light Brown, 3000 per case**

3M ID 7100000758 UPC 00021200426889

### **Details**

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

### **Typical properties**

Adhesive Type: Synthetic Rubber (R25)  
Application: Cushioning Spacer, Cushioning Stop, Protective Non-Skid Feet, Surface Protection  
Availability: Stocked  
Backing Material: Polyurethane Foam  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 36 Shore M  
Height-Thickness Range: 0.001 - 0.099 in  
Height-Thickness Range (Metric): 1.0 - 1.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Light Brown  
Product Form: Rollstock - Die Cut  
Product Series: SJ5202  
Product Type: Bumper  
Shape: Hexagonal-Die Cut  
Width-Diameter Range: 0.400 - 0.499 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

### **Dimensions and Classifications**

Overall Height (Imperial): 0.063 in  
Overall Height (Metric): 1.6 mm  
Overall Length (Imperial): 0.433 in  
Overall Length (Metric): 11 mm  
Overall Width (Imperial): 0.433 in  
Overall Width (Metric): 11 mm

# 3M™ Bumpon™ Protective Products SJ5376 Clear, 3000/Case

3M ID 7000052053 UPC 00021200267918

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Small Electronic Device Feet, Small Kitchen Appliance Feet  
Availability: Stocked  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 2.0 - 2.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ5376  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.315 in  
Overall Diameter (Metric): 8 mm  
Overall Height (Imperial): 0.11 in  
Overall Height (Metric): 2.8 mm  
Overall Length (Imperial): 0.315 in  
Overall Length (Metric): 8 mm  
Overall Width (Imperial): 0.11 in  
Overall Width (Metric): 2.8 mm

# 3M™ Bumpon™ Resilient Rollstock SJ5808

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Cushioning Spacer, Cushioning Stop, Gasketing, Notebook  
Computer Non-Skid Feet, Protective Non-Skid Feet, Surface Protection, Surface  
Protection for Sub-Assembly Racks  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Rollstock  
Product Type: Rollstock  
Roll Width (Imperial): 4.5 in, 9 in  
Roll Width (Metric): 114 mm, 229 mm  
Shape: Rollstock  
Width-Diameter Range: 4.00 - 4.99 in, 9.00 - 9.99 in  
Width-Diameter Range (Metric): 100.0 - 199.9 mm, 200.0 - 299.0 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Length (Imperial): 36 yd  
Overall Length (Metric): 32.91 m  
Overall Thickness (Imperial): 0.125 in  
Overall Thickness (Metric): 3.2 mm  
Overall Width (Imperial): 4.5 in, 9 in  
Overall Width (Metric): 11.43 cm, 22.86 cm

# 3M™ Bumpon™ Protective Products SJ6148 Black, 2500/Case

3M ID 7000052143 UPC 00021200450174

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Heavier Appliances/Electronic Device Feet - Anti-Skid  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 6.0 - 6.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ6148  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.700 - 0.799 in  
Width-Diameter Range (Metric): 20.0 - 29.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.787 in  
Overall Diameter (Metric): 20 mm  
Overall Height (Imperial): 0.244 in  
Overall Height (Metric): 6.2 mm  
Overall Length (Imperial): 0.787 in  
Overall Length (Metric): 19.99 mm  
Overall Width (Imperial): 0.244 in  
Overall Width (Metric): 6.2 mm

# 3M™ Bumpon™ Protective Products SJ6103 Black, 3000/Case

3M ID 7100076959 UPC 50021200377513

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 5.0 - 5.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ6103  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.400 - 0.499 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.44 in  
Overall Diameter (Metric): 11.2 mm  
Overall Height (Imperial): 0.2 in  
Overall Height (Metric): 5.1 mm  
Overall Length (Imperial): 0.44 in  
Overall Length (Metric): 11.2 mm  
Overall Width (Imperial): 0.2 in  
Overall Width (Metric): 5.1 mm

# 3M™ Bumpon™ Protective Products SJ61A8 Black, 10,000/Case

3M ID 7010302253 UPC 00051115258121

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ61A8  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.375 in  
Overall Diameter (Metric): 9.5 mm  
Overall Height (Imperial): 0.135 in  
Overall Height (Metric): 3.4 mm  
Overall Length (Imperial): 0.375 in  
Overall Length (Metric): 9.53 mm  
Overall Width (Imperial): 0.135 in  
Overall Width (Metric): 3.43 mm

# 3M™ Electrically Conductive Cushioning Gasket Tape ECG7053H

3M ID B5005035075

## Details

- XYZ electrical conductivity
- Conformable-Soft single sided
- Provides EMI shielding and grounding
- Good adhesion to many substrates
- Single sided adhesive

## Typical properties

- Adhesive Type: Acrylic
- Application: Cushioning, EMI Shielding, Electrostatic Discharge (ESD), Gap Filling, Grounding
- Material: Conductive Polyurethane Foam
- Product Color: Gray
- Product Usage: Bond Line Gaps, Printed Circuit Boards, Sensors
- eClass 14 Classification Group: 27140708



# **3M™ Surface Protection Tape 3K12H**

3M ID B5005036068

## **Details**

PE tape with medium tack adhesive system  
Adhesion to SUS (180 degree F) is 110 gf/in. width  
Protects textured metals, plastic and embossed painted panels

# 3M™ Wiremount Socket, CHG Series, CHG-1002-001010-KCP

3M Product Number CHG Series 3M ID 7010396201 UPC 50054007620551

## Details

- Secure and reliable connections
- Single-row, side-to-side stackable design for better organization
- High-quality construction for long-lasting durability
- Simple IDC design for quick and effortless installation
- Single-row configuration helps save space

## Typical properties

- Application: Wire-to-board Connecting
- Compatible Wire Type: Discrete Wire
- Connector Style: Receptacle
- Contact Base Material: Copper Alloy
- Contact Underplating Material: Nickel
- Contact Underplating Thickness (Imperial): 100 µin
- Contact Underplating Thickness (Metric): 2.54 µm
- Factory ISO Certification: No ISO Certification information available
- Features: Closed End, Polarizing Key
- Insulation Color: Gray
- Insulation Material: Glass Filled Polyester (PBT)
- Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$
- Mating Contact Finish Material: Gold
- Mating Contact Finish Thickness (Imperial): 30 µin
- Mating Contact Finish Thickness (Metric): 0.76 µm
- Maximum Operating Temperature (Celsius): 105 °C
- Maximum Operating Temperature (Fahrenheit): 221 °F
- Minimum Operating Temperature (Celsius): -55 °C
- Minimum Operating Temperature (Fahrenheit): -67 °F
- Number of Contact Rows: 1
- Number of Contacts: 2
- Pitch (Imperial): 0.1 in
- Pitch (Metric): 2.54 mm
- Product Series: CHG
- Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0
- Tech Sheet Number: TS-0189
- Termination Method: IDC
- Withstanding Voltage: 500 Vrms at Sea Level
- eClass 14 Classification Group: 27460202

## 3M™ Pak 50 Wiremount Socket, P25E Series

3M Product Number P25E Series 3M ID B00038708 UPC 00051111738238

### Details

Terminates 30 AWG stranded 0.635 mm (25 mil) pitch flat PVC cable (3754 series)  
Daisy chain capable for versatility  
Mates with 3M™ P50 series IDC boardmount connectors  
Latch/eject mechanism helps maintain secure connection  
Cable strain relief standard

### Typical properties

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Contact Base Material: Phosphor Bronze  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Feed Through, Strain Relief  
Insulation Color: Black  
Insulation Material: Glass Filled Nylon  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 250 \text{ VDC}$   
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial):  $<10 \mu\text{in}$   
Mating Contact Finish Thickness (Metric):  $<0.25 \mu\text{m}$   
Maximum Conductor Size (Imperial): 30 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Conductor Size (Imperial): 30 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 20 , 30 , 34 , 40 , 50 , 60 , 68 , 80 , 100  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Series: P25E  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-1141  
Termination Method: IDC  
Withstanding Voltage: 300 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

## **3M™ Mini Delta Ribbon (MDR) Junction Shell 10326-52A0-008, Black, 100 Ea/Case**

3M ID 7000007401 UPC 04901690093647

### **Details**

Shielded shells provide EMI/ESD protection  
Pre-loaded ribbon contacts provide proven reliable connection  
Plastic shell, unshielded groundplate attached M2.6 Jack Screw  
Solderable discrete wire round cable

### **Typical properties**

Brands: 3M™  
Compatible Cable Shape: Round  
Compatible Number of Contacts: 26  
Connector Style: Plug  
Factory ISO Certification: No ISO Certification information available  
Flammability: UL 94V-0  
For Use With: MDR Connectors  
Insulation Flammability Rating: UL 94V-0  
Markings: 3M Logo and Part Number  
Mounting Type: Wiremount  
Number of Cable Entries: 1  
Number of Contact Rows: 2  
Outer Shell Material: Glass Reinforced Polyester (PBT)  
Product Color: Black  
Product Type: Junction Shell  
Shell Material: Glass Filled Polyester (PBT)  
Temperature Rating: -20 Degree C to +85 Degree C  
eClass 14 Classification Group: 27440213

## **3M™ Twisted Pair Flat Cable, 1700 Series**

3M Product Number 1700 Series 3M ID B00039381 UPC 00051119924503

### **Details**

Twisted pairs help reduce crosstalk in balanced drive applications  
28 AWG stranded wire adds flexibility and cable life  
Can be mass terminated to a broad range of IDC connectors  
Wires are color-coded for easy identification  
10-color twist and flat rep

### **Typical properties**

Application: Crosstalk Reduction, High-flexibility Connecting, Mass Termination, Noise Immunity, RFI Interference Protection  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Multi-color  
Insulation Material: PVC  
Number of Conductors: 6 , 10 , 14 , 16 , 20 , 26 , 30 , 34 , 36 , 40 , 48 , 50 , 60 , 64  
Number of Pairs: 3 , 5 , 7 , 8 , 10 , 13 , 15 , 17 , 18 , 20 , 24 , 25 , 30 , 32  
Number of Strands: 7  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Computers, Control Modules, Robotics Motors, Sensors  
Specifications Met: RoHS 2011/65/EU  
Tech Sheet Number: TS-0115  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27061801

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft, 117 ft, 200 ft, 298 ft, 299 ft, 300 ft, 315 ft  
Overall Length (Metric): 30.48 m, 35.662 m, 60.96 m, 90.83 m, 91.135 m, 91.44 m, 96.012 m

## **3M™ Mini Stack Connector Hand Tool 3S900-1X**

3M Product Number 3S900-1x 3M ID B5005471001

### **Details**

Required tooling for the 3M™ Mini Stack Connector Wiremount Socket 3S5 Series

Enables Insulation Displacement Connection (IDC) termination process that helps save up to 60% wiring time compared to crimp-style connectors

Eliminates wire stripping for tim

### **Typical properties**

Application: Wire Terminating

Tech Sheet Number: TS-2728

Termination Method: IDC

eClass 14 Classification Group: 27460202

## **3M™ Pleated Foil Shielded Cable, 90211 Series**

3M ID B00039653 UPC 00051111731802

### **Details**

Can be used with IDC mass termination connectors

Can be used in applications requiring standard impedance of 75 ohms single ended

Perfect for board-to-board applications within electronic equipment, TPE cover prevents pleated copper foil from accidental

### **Typical properties**

Application: Signal Integrity

Cable Type: Shielded

Factory ISO Certification: No ISO Certification information available

Insulation Color: Gray

Insulation Material: TPE

Jacket Color: Gray

Jacket Material: TPE

Number of Conductors: 26 , 36 , 50 , 68 , 100

Number of Strands: 1

Pitch (Imperial): 0.025 in

Pitch (Metric): 0.635 mm

Tech Sheet Number: TS-0598

Wire Size: 30 AWG

eClass 14 Classification Group: 27060106

## **3M™ Round Conductor Flat Cable, 3447 Series**

3M Product Number 3447 Series 3M ID B00039705 UPC 00051111945032

### **Details**

Solid copper conductor for reliable electrical performance  
Size 30 AWG wire for flexibility and easy installation  
PVC insulation for durability and protection against external factors  
0.025 in. thickness for space-saving benefits  
High-quality material

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Gray  
Insulation Material: PVC  
Number of Conductors: 10 , 16 , 20 , 24 , 26 , 30 , 34 , 36 , 40 , 50 , 60 , 68 , 80 ,  
100  
Number of Strands: 1  
Pitch (Imperial): 0.025 in  
Pitch (Metric): 0.635 mm  
Specifications Met: RoHS 2011/65/EU  
Tech Sheet Number: TS-0830  
Wire Size: 30 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 300 ft  
Overall Length (Metric): 91.44 m



# 3M™ 400G QSFP-DD Direct Attach Copper Cable Assemblies 9V Series

3M Product Number 400G QSFP-DD 3M ID B5005476001 UPC 00051131129887

## Details

Flexible, foldable twin axial cable is excellent for cable management in high-density TOR architectures

Allows installers to tightly bend and fold flat cable into space-constrained areas

Full-cable shielding allows for high-bandwidth, resonance free SI

## Typical properties

Aggregate Data Rate: 400G

Application: Networking

Characteristic Impedance: 100 ohms

Connector Style (End A): Plug

Connector Style (End B): Plug

Connector Type (End A): ST

Connector Type (End B): ST

Form Factor: QSFP-DD

Number of Cable Assembly Lanes: x8

Number of Conductors: 32

Product Series: 9V

Product Usage: Switch

Protocol: Ethernet

Standard Size: 3.0 m, 2.0 m, 1.0 m

Tech Sheet Number: TS-2785

Wire Gauge (Imperial): 26 AWG, 28 AWG, 30 AWG

eClass 14 Classification Group: 19051003

## Dimensions and Classifications

Overall Length (Imperial): 2.46 ft, 3.28 ft, 4.1 ft, 4.92 ft, 5.74 ft, 6.56 ft, 7.38 ft, 8.2 ft, 9.02 ft, 9.84 ft, 10.66 ft, 11.48 ft

Overall Length (Metric): 0.75 m, 1 m, 1.25 m, 1.5 m, 1.75 m, 2 m, 2.25 m, 2.5 m, 2.75 m, 3 m, 3.25 m, 3.5 m

## **3M™ PIM Reduction Kit 1000**

3M Product Number 1000 3M ID 7100264848

### **Details**

Effective, robust solution to passive intermodulation (PIM) issues in wireless network infrastructure  
Out-of-the-box solution  
Designed to help protect against conducted PIM interference  
Ideal for water-resistant and humidity-resistant seals  
Excellent

### **Typical properties**

Application: EMI Absorbing  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Frequency Range: 1 GHz - 3 GHz  
Kit Includes: 3M™ External PIM Absorber 1000, 3M™ Butyl Mastic Tape 2212, Scotch® Super 33+™ Vinyl Electrical Tape  
Product Usage: Antennas, Enclosures  
eClass 14 Classification Group: 27182804

# 3M™ Boardmount D-Sub Straight Socket Connector 885 Series

3M ID B5005537003 UPC 00068060597595

## Details

Available contact: 9, 15, 25 and 37 positions  
360° shielding for excellent EMI protection  
30µ" gold plating within contact area for a reliable connection  
RoHS compliant  
Mates with 3M™ D-Sub Plug 8200 Series  
Straight socket connector

## Typical properties

Brands: 3M™  
Connector Style: Receptacle  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Number of Contacts: 9 , 15 , 25 , 37  
PCB Mounting Angle: Straight  
Tech Sheet Number: TS-2792  
Termination Method: Solder Tail

# COMING SOON: 3M™ Twin Axial PCI Express Extender Assemblies Gen 5.0 8KDx Series

3M ID B5005536002

## Details

Broad system design possibilities for PCIe® 5.0 applications

Foldable twin axial cable is excellent for streamlining designs and managing internal server space

Continuous longitudinal shielding allows for high-bandwidth, resonance free SI performance

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## Typical properties

Brands: 3M™

Connector Style (End A): Edgecard

Connector Style (End B): Receptacle

Connector Type (End A): ST

Standard Size: 0.25 m, 0.5 m

Wire Gauge (Imperial): 30 AWG

# 3M™ Electrically Conductive Double-Sided Tape 9772 Series

## Details

- Isotropic XYZ-axis conductivity through the adhesive
- Excellent XY-axis electrical resistance
- Thin profile
- Conformable and bonds quickly
- Good EMI shielding in the bond line gap
- Improved electrical contact to small-size areas
- Good handling and workabi

## Typical properties

- Adhesion Strength (Imperial): 1000 gf/in, 1100 gf/in
- Adhesive Type: Acrylic
- Application: Attaching, Electrostatic Discharge (ESD), Grounding, Interconnecting, Passive Intermodulation (PIM) Management
- Backing (Carrier) Material: Copper Foil
- Electrical Resistance: XY-axis 0.015  $\Omega$
- Factory ISO Certification: No ISO Certification information available
- Liner Material: PET
- Maximum Operating Temperature (Celsius): 121 °C
- Maximum Operating Temperature (Fahrenheit): 250 °F
- Minimum Operating Temperature (Celsius): -40 °C
- Minimum Operating Temperature (Fahrenheit): -40 °F
- Product Color: Gold
- Product Usage: Chassis, EMI Gaskets, EMI Shields, Flexible Printed Circuits, Sensors
- Shelf Life: 12 Month
- Total Tape Thickness without Liner (Imperial): 1.2 mil, 2 mil
- Total Tape Thickness without Liner (Metric): 0.03 mm, 0.05 mm

## Dimensions and Classifications

- Overall Length (Imperial): 10.936 yd, 32.808 yd, 109.361 yd
- Overall Length (Metric): 10 m, 30 m, 100 m
- Overall Width (Imperial): 0.984 in, 3.937 in, 19.685 in
- Overall Width (Metric): 25 mm, 100 mm, 500 mm

# 3M™ USB3 Vision Industrial Camera Cable Assembly 1U30S Series

3M Product Number 1U30S Series 3M ID B5005387002 UPC 04550309217204

## Details

For repeated bending at greater than 10 million cycles  
Strong signal transmission > 5 m  
Moveable cable has excellent U-shaped sliding durability  
Locking screws are available for added stability during repetitive motion  
USB3.0 compatible and USB3 Visio

## Typical properties

Application: High-flexibility Connecting, High-speed Connecting, High-speed Data Transmission  
Cable Length (Imperial): 3.281 ft, 4.921 ft, 6.562 ft, 8.202 ft, 9.843 ft, 11.483 ft, 13.123 ft, 14.764 ft, 16.404 ft  
Cable Length (Metric): 1 m, 1.5 m, 2 m, 2.5 m, 3 m, 3.5 m, 4 m, 4.5 m, 5 m  
Cable Outside Diameter (Imperial): 0.264 in  
Cable Outside Diameter (Metric): 6.7 mm  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): USB Micro B  
Connector Type (End B): USB Standard A  
Factory ISO Certification: No ISO Certification information available  
Product Color: Black  
Product Series: 1U30S  
Product Usage: Cameras, Control Units  
Protocol: USB3 Vision  
Tech Sheet Number: TS-2738

## **3M™ Shielded Compact Ribbon Connectors 36110-1110 PL, Silver, 100 ea/Case**

3M Product Number 361 Series 3M ID 7000007590 UPC 04547452336326

### **Details**

Robust ribbon-style contact for reliable, repetitive plugging  
Vertical orientation for design flexibility  
Tabs on body provide lateral support to surface-mount solder joints and helps enable shield grounding  
360-degree shielding for excellent EMI protection

### **Typical properties**

Brands: 3M™  
Connector Style: Plug  
Contact Base Material: Copper Alloy  
Factory ISO Certification: No ISO Certification information available  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 10  
Product Color: Silver  
Tech Sheet Number: TS-2224  
eClass 14 Classification Group: 27460201

## **3M™ Pak 50 I/O Plug, P50-XXX-DDP-XXX-EA, P50 Series**

3M Product Number P50 Series 3M ID B00046680 UPC 00051119902990

### **Details**

Provides EMI shielding for wire-to-board connections  
Can connect to sockets from 20 to 100 positions  
Available in straight and right angle versions  
Through-hole boardmount connector  
Mates easily with 3M™ Pak 50 Series Wiremount Sockets

### **Typical properties**

Application: Wire-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Plug  
Contact Base Material: Phosphor Bronze  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Black  
Insulation Material: Glass Filled Nylon  
Mating Contact Finish Material: Gold  
Mating Option: None  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 0  
Number of Contacts: 20 , 50 , 68  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Post Contact Finish Material: Gold  
Specifications Met: RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-1147  
Voltage Rating: 650 Vrms at Sea Level  
eClass 14 Classification Group: 27460201



## **3M™ Pin Strip Header, 961 Series**

3M ID B00046735

### **Details**

High temperature dielectric

“No lead” reflow solder compatible

End stackable feature

Single- and dual row version

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information

For more information, refer to Da

### **Typical properties**

Application: Board-to-board Connecting, Wire-to-board Connecting

Tech Sheet Number: TS-2183

eClass 14 Classification Group: 27460201

# **3M™ Trizact™ Composite Slurry Polishing Pad HT-315-E**

3M Product Number HT-315-E 3M ID B5005408002

## **Details**

Effective fine lapping for ultra-hard substrates such as silicon carbide (SiC) and ceramics

Improved total thickness variation (TTV), removal rates and good surface finish compared to the copper platen process when used with 3M™ Trizact™ Composite Slurry

## **Typical properties**

Application: Finishing, Lapping, Polishing, Pre-CMP, Scratch Removal

Product Usage: Semiconductor Wafers, Ultra-hard Substrates

Substrate: Gallium Arsenide, Gallium Nitride, Lithium Tantalate, Sapphire, Silicon Aluminum, Silicon Carbide, Silicon Nitride

## **3M™ Polycarbonate Carrier Tape 3200 Series**

3M Product Number 3200 3M ID B5005430004

### **Details**

Features extremely small pocket holes, helping reduce production delays due to solder bump sticking

Optical Precision Process drills ultra small pocket holes of less than 0.01 mm

Process can greatly reduce burr debris which may contaminate IC chips

Typ

### **Typical properties**

Application: Electronic Component Packaging

Material: Polycarbonate

Product Color: Black

Product Usage: Bare Die, Discrete Components, ICs, LEDs, Passive Components, WLCSP

Surface Resistance:  $1.0 \times 10^4 \Omega$  -  $1.0 \times 10^8 \Omega$

eClass 14 Classification Group: 27140708

## **3M™ High-Routability Internal miniSAS Cable Assembly, 8F68 Series**

3M ID B10456635

### **Details**

Internal cable construction is thin  
Lower profile than other similar AWG twin axial cables  
Allows for dense routing, more routing options within a case  
Ribbon construction  
Handle four pairs simultaneously during termination, identical channel lengths

### **Typical properties**

Application: High-speed Data Transmission  
Characteristic Impedance: 100 ohms  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): ST  
Connector Type (End B): ST  
Form Factor: MiniSAS  
Number of Cable Assembly Lanes: x8  
Number of Conductors: 68  
Product Series: 8F68  
Product Usage: Backplane/Midplane, Board-to-board, Mid-board Cables  
Protocol: SAS, SATA  
Tech Sheet Number: TS-2450  
Wire Gauge (Imperial): 30 AWG  
eClass 14 Classification Group: 19051003

## **3M™ MetPak™ HM Header, HM Series**

3M ID B00050414

### **Details**

Modular/scalable format IEC 61076-4-101

Press-fit or solder tail version

63 mated lines per linear inch

Ships with protective cap, which also serves as an insertion tool

End-to-end stackable with 5 row 3M™ MetPak™ CP2, HM and HSHM products

See Regula

### **Typical properties**

Tech Sheet Number: TS-2006

eClass 14 Classification Group: 27460201

# 3M™ Thermally Conductive Silicone Interface Pad 5595S

3M ID B10469519

## Details

Good thermal stability of the base polymer with excellent softness of the thermal pad

Good thermal conductivity in a soft silicone polymer base

The product tack is such that a mechanical means to support the pad in a final assembly is required

This "S"

## **3M™ Serial Attached SCSI (SAS) Connector, SBR-ST-29-X-ML, SBR Series**

3M ID B10513286 UPC 50051111778857

### **Details**

6 Gbps input/output connector for backplane applications  
Two contact mating levels for early-mate and late-break allows "blind mating" or "hot swap" applications  
Capable of accepting HDD fitted with SAS or Serial Advanced Technology Attachment (SATA) He

### **Typical properties**

Connector Style: Receptacle  
Current Rating: 1.5 A  
Factory ISO Certification: No ISO Certification information available  
Mounting Type: Boardmount  
Number of Contacts: 29  
Orientation: Vertical  
Packaged Form: Tray  
Product Series: SBR  
Tech Sheet Number: TS-2176  
Withstanding Voltage: 500 Vrms at Sea Level  
eClass 14 Classification Group: 27440307

# 3M™ Electrically Conductive Adhesive Transfer Tape 9713

## Details

Isotropic XYZ-axis electrical conductivity  
Thinner adhesive than 3M™ XYZ-Axis Electrically Conductive Tape 9712  
Nickel-plated carbon fiber scrim (a more conductive scrim)  
Good contact with both hard and soft surfaces  
Excellent die-cutting and converti

## Typical properties

Adhesion Strength (Imperial): 1500 gf/in  
Adhesive Type: Acrylic  
Application: Attaching, Electrostatic Discharge (ESD), Grounding, Interconnecting  
Backing (Carrier) Material: Non-woven  
Brands: 3M™  
Electrical Resistance: Z-axis 1.7  $\Omega$ , XY-axis 5  $\Omega$   
Factory ISO Certification: No ISO Certification information available  
Liner Material: PET  
Maximum Operating Temperature (Celsius): 121 °C  
Maximum Operating Temperature (Fahrenheit): 250 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Product Color: Gray  
Product Usage: Bond Line Gaps, Chassis, EMI Gaskets, EMI Shields, Flexible Printed Circuits, Printed Circuit Boards, Sensors  
Shelf Life: 24 Month  
Total Tape Thickness without Liner (Imperial): 3.5 mil  
Total Tape Thickness without Liner (Metric): 0.089 mm

## Dimensions and Classifications

Overall Length (Imperial): 10 yd, 36 yd  
Overall Length (Metric): 9.144 m, 32.918 m  
Overall Width (Imperial): 0.25 in, 0.5 in, 1 in, 4 in, 12 in, 24 in  
Overall Width (Metric): 6.35 mm, 12.7 mm, 25.4 mm, 101.6 mm, 304.8 mm, 609.6 mm



# 3M™ Diamond Lapping Film Disc 661X

## Details

Most widely used diamond lapping film  
Fast cut, increased throughput  
Flatter surface and sharp edges  
Uniform finish  
Available in discs, sheets and rolls

## Typical properties

Abrasive Material: Diamond  
Application: Final Finishing, Flat Lapping, Grinding, Polishing, Refining, Shaping, Superfinishing  
Attachment Type: Plain Back  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 0.1 µm, 0.5 µm, 1 µm, 1.5 µm, 15 µm, 3 µm, 30 µm, 6 µm, 9 µm  
Polishing Process: Step 1: De-Nub/Epoxy Removal, Step 1b: Cut Angle, Step 2b: Refine/Level Connector (Ceramic Connector)  
Product Form: Disc  
Product Series: 661X  
Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors  
Substrate: Carbide, Ceramic, Composite, Exotic Alloy, Glass, Hardened Metal, Stone

## Dimensions and Classifications

Overall Diameter (Imperial): 4 in, 4.125 in, 4.25 in, 5 in, 6 in, 8 in, 10 in, 12 in  
Overall Diameter (Metric): 101.6 mm, 104.775 mm, 107.95 mm, 127 mm, 152.4 mm, 203.2 mm, 254 mm, 304.8 mm

# 3M™ Shrouded Boardmount Header 1.27 mm (0.050 in) Pitch Latch and Eject 452 Series

3M Product Number 452 Series 3M ID B30000148 UPC 08887862410466

## Details

Helps enable design flexibility in wire-to-board and PLC controllers, especially for small devices

True half-size .050"/1.27mm pitch saves space without significant reduction in connections

Delivers high connection density to ribbon cable applications

## Typical properties

Application: Wire-to-board Connecting

Brands: 3M™

Connector Shape: Rectangular

Connector Style: Header

Contact Base Material: BeCu, Copper Alloy

Current Rating: 1.0 A

Factory ISO Certification: No ISO Certification information available

Features: Keying Slot, Pick & Place

Insulation Height (Imperial): 0.21 in, 0.222 in

Insulation Height (Metric): 5.33 mm, 5.65 mm

Insulation Material: LCP

Latch/Ejector Type: Latch Lock/Eject Hooks, Latch Lock/Eject Hooks (Short), Push-in/Pull-out

Mating Contact Finish Material: Gold, Gold Flash

Mating Contact Finish Thickness (Imperial): <10 µin

Mating Contact Finish Thickness (Metric): <0.25 µm

Mating Option: Board to Cable, Board to Wire

Maximum Operating Temperature (Celsius): 125 °C

Maximum Operating Temperature (Fahrenheit): 257 °F

Minimum Operating Temperature (Celsius): -65 °C

Minimum Operating Temperature (Fahrenheit): -85 °F

Number of Contact Rows: 2

Number of Contacts: 4 , 6 , 8 , 10 , 12 , 14 , 16 , 20 , 26 , 30 , 40 , 50

PCB Mounting Angle: Right Angle

PCB Mounting Style: Surface Mount, Through Hole

Pitch (Imperial): 0.05 in

Pitch (Metric): 1.27 mm

Post Contact Finish Material: Tin

Product Series: 452

Shroud Style: 4 Wall

Specifications Met: UL 94V-0

Tech Sheet Number: TS-2437

Voltage Rating: 125 VAC, 125 Vrms at Sea Level

eClass 14 Classification Group: 27460201

# **3M™ Diamond Lapping Film 666XW, 6.0 Micron PSA Disc, 5 in x NH, 25/Inner, 250/Case**

3M ID 7100028249 UPC 00051111697429

## **Details**

- PSA-backed
- Fast cut
- Increased durability
- Flat surface, reduced edge rounding
- Uniform finish
- Long abrasive life minimizes abrasive changes
- Available in rolls, discs and sheets

## **Typical properties**

- Abrasive Material: Diamond
- Application: Flat Lapping, Polishing, Superfinishing
- Attachment Type: PSA Back
- Brands: 3M™
- Factory ISO Certification: No ISO Certification information available
- Micron Grade: 6 µm
- Polishing Process: Step 2b: Refine/Level Connector (Ceramic Connector)
- Product Form: Disc
- Product Series: 666XW
- Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors
- Substrate: Carbide, Ceramic, Composite, Exotic Alloy, Glass, Stone

## **Dimensions and Classifications**

- Overall Diameter (Imperial): 5 in
- Overall Diameter (Metric): 127 mm

# 3M™ Lapping Film 461X, Discs

## Details

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## Typical properties

Abrasive Material: Silicon Carbide  
Application: Flat Lapping, Polishing, Superfinishing  
Attachment Type: Plain Back  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 15 µm, 30 µm, 5 µm, 9 µm  
Polishing Process: Step 1: De-Nub/Epoxy Removal, Step 1b: Cut Angle  
Product Form: Disc  
Product Series: 461X  
Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Optical  
Specifications Met: RoHS 2011/65/EU  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## Dimensions and Classifications

Overall Diameter (Imperial): 4.25 in, 5 in  
Overall Diameter (Metric): 107.95 mm, 127 mm

# **3M™ Diamond Lapping Film 664X, 45.0 Micron PSA Disc, 8 in x NH, 25/Inner, 250/Case**

3M ID 7010359517 UPC 00051111546727

## **Details**

- PSA-backed
- Fast cut
- Increased durability
- Flat surface, reduced edge rounding
- Uniform finish
- Long abrasive life minimizes abrasive changes
- Available in rolls, discs and sheets

## **Typical properties**

- Abrasive Material: Diamond
- Application: Flat Lapping, Grinding, Refining, Shaping, Superfinishing
- Attachment Type: PSA Back
- Brands: 3M™
- Factory ISO Certification: No ISO Certification information available
- Micron Grade: 45 µm
- Product Form: Disc
- Product Series: 664X
- Substrate: Carbide, Ceramic, Composite, Exotic Alloy, Glass, Stone

## **Dimensions and Classifications**

- Overall Diameter (Imperial): 8 in
- Overall Diameter (Metric): 203.2 mm

## 3M™ Pak 50 Low Profile Plug, P50LE Series

3M Product Number P50LE Series 3M ID B10178341 UPC 00051111741023

### Details

Low profile 11.8 mm mated height is excellent for board stacking  
Latch/eject mechanism helps maintain secure connections  
Solder tails help stabilize plug to board  
Also available in straight and right angle versions  
Mates with 3M™ Wiremount Socket, P25

### Typical properties

Application: Wire-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Plug  
Contact Base Material: Phosphor Bronze  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Board Retention Feature  
Insulation Color: Brown  
Insulation Height (Imperial): 0.197 in  
Insulation Height (Metric): 5 mm  
Insulation Material: Glass Filled PPS  
Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 250 VDC  
Latch/Ejector Type: Latch Holder  
Mating Contact Finish Material: Gold Flash  
Mating Contact Finish Thickness (Imperial):  $<10 \mu\text{in}$   
Mating Contact Finish Thickness (Metric):  $<0.25 \mu\text{m}$   
Mating Option: Board to Cable, Board to Wire, None  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 0 , 2  
Number of Contacts: 20 , 30 , 40 , 50 , 60 , 68 , 80 , 100  
PCB Mounting Style: Surface Mount  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Post Contact Finish Material: Gold  
Process Temperature Rating: 260 °C (Per J-STD-020C)  
Product Series: P50LE  
Shroud Style: 4 Wall  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-1148  
eClass 14 Classification Group: 27460201

## **3M™ Ionic Liquid Antistat FC-4400**

3M ID B10178970

### **Details**

Good solubility in various polymers - optical clarity  
Stable to high temperature processing - excellent thermal stability; essentially no vapor pressure; outgassing; flammability or VOC concerns  
Excellent antistatic performance over a wide humidity range

### **Typical properties**

Product Type: Liquid Antistat  
eClass 14 Classification Group: 27059090

## 3M™ Pak 50 Boardmount Plug, P50 Series

3M Product Number P50 Series 3M ID B10207080 UPC 00051111739310

### Details

- Up to 200 contacts for high-density designs
- Available in horizontal, parallel and vertical mating for design flexibility
- Insulator helps prevent mating misalignment
- Process rated for wave soldering
- Available with flanges and retention clips

### Typical properties

- Application: Board-to-board Connecting
- Connector Shape: Rectangular
- Connector Style: Plug, Receptacle
- Contact Base Material: Phosphor Bronze
- Contact Termination Area Plating Material: Gold Flash
- Contact Underplating Material: Nickel
- Current Rating: 0.5 A
- Factory ISO Certification: No ISO Certification information available
- Features: Board Retention Feature, Mounting Flange, Retention Clip
- Insulation Color: Black
- Insulation Height (Imperial): 0.275 in, 0.276 in, 0.421 in
- Insulation Height (Metric): 6.99 mm, 7.01 mm, 10.7 mm
- Insulation Material: Glass Filled Polyamide Nylon
- Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 500 VDC
- Insulator Material: Glass Filled Nylon
- Latch/Ejector Type: Latch Holder
- Mating Contact Finish Material: Gold
- Mating Option: Board to Board, Board to Cable, Board to Wire
- Maximum Operating Temperature (Celsius): 85 °C
- Maximum Operating Temperature (Fahrenheit): 185 °F
- Minimum Operating Temperature (Celsius): -55 °C
- Minimum Operating Temperature (Fahrenheit): -67 °F
- Number of Contact Rows: 2
- Number of Contacts: 120 , 140 , 200
- PCB Mounting Angle: Right Angle
- PCB Mounting Style: Through Hole
- Pitch (Imperial): 0.079 in
- Pitch (Metric): 0.05 mm
- Post Contact Finish Material: Gold
- Process Temperature Rating: 260 °C (Wave Solder Compatible)
- Product Series: P50
- Shroud Style: 4 Wall
- Specifications Met: UL 94V-0
- Tech Sheet Number: TS-2049
- Voltage Rating: 650 Vrms at Sea Level
- eClass 14 Classification Group: 27460201



# 3M™ Novec™ 72DA Engineered Fluid

## Details

- Non-flammable
- Non-conductive
- Low toxicity
- Low Global Warming Potential (GWP)
- Zero ozone depletion potential
- Low surface tension penetrates tight spaces for improved cleaning
- Excellent for removal of ionic contamination

## Typical properties

- Application: Cleaning, Deposition Solvent, Precision Cleaning, Solvent Cleaning, Vapour Degreasing
- Boiling Point (Celsius): 43 °C
- Boiling Point (Fahrenheit): 109 °F
- Brands: Novec™
- Cleaning Strength: Heavy Duty
- Compatible Fluorochemical: Reactive Silicone, Silicone
- Density (Imperial): 79.908 lb/ft<sup>3</sup>
- Density (Metric): 1.28 g/cm<sup>3</sup>
- Dielectric Strength Range: 20 kV - 35 kV
- Factory ISO Certification: No ISO Certification information available
- Fluorocarbon Solubility: Medium
- GWP (IPCC 2007): 42 (100 yr ITH)
- GWP Range: Very Low
- Hydrocarbon Solubility: Very High
- Maximum Use Temperature (Celsius): 150 °C
- Maximum Use Temperature (Fahrenheit): 302 °F
- Net Weight (Imperial): 10 lb, 50 lb, 550 lb
- Net Weight (Metric): 4.54 kg, 22.68 kg, 249.5 kg
- Plastic Elastomer Compatibility: Requires Customer Testing
- Pour Point (Celsius): -38 °C
- Pour Point (Fahrenheit): -36 °F
- Product Series: Novec 72DA
- Product Usage: Deposition Solvent
- Replacement For: CFCs, HCFCs, HFCs, TCE
- Substrate: Silicone, Solvent-resistant Plastic
- Volume (Imperial): 1 gal, 5 gal, 55 gal
- Volume (Metric): 3.79 L, 18.93 L, 208.198 L
- eClass 14 Classification Group: 23060490

## **3M™ Novec™ 2202 Electronic Grade Coating**

### **Details**

Provides durable, anti-smudge and easy-to-clean properties to a variety of surfaces

Improves lubricious feel by helping to reduce stick-slip friction

Is optically transparent and does not alter surface appearance

Can be sprayed (preferred), dipped, or se

### **Typical properties**

Application: Protecting, Smudge Resistance

Application Method: Dip, Selective Dispense, Spray

Brands: Novec™

Coating Location: Device Screens, Glass Surfaces

Coating Thickness Range (Metric): <10 nm

Factory ISO Certification: No ISO Certification information available

Net Weight (Imperial): 0.18 lb, 11 lb

Net Weight (Metric): 5 kg, 81 g

Polymer Type: Fluorosilane

Product Series: Novec 2202

Removability: Not Removable

Volume (Imperial): 0.75 gal, 2 fl oz

Volume (Metric): 2.84 L, 59.147 mL

eClass 14 Classification Group: 27400113

# 3M™ Novec™ 71D90 Engineered Fluid

3M ID B5005005032

## Details

Excellent solvency for aerosol formulations  
Non-flammable (no closed cup flash point)  
Zero ozone-depletion potential (ODP)  
Extremely low global warming potential (GWP)

## Typical properties

Application: Aerosol Formulations, Solvent Cleaning  
Boiling Point (Celsius): 43 °C  
Boiling Point (Fahrenheit): 109 °F  
Pour Point (Celsius): -45 °C  
Pour Point (Fahrenheit): -49 °F  
eClass 14 Classification Group: 23060490

# **3M™ Lined Low-Static Non-Silicone Polyimide Film Tape 7419L, 610 mm x 33 m**

3M ID 7010412337 UPC 00051115530456

## **Details**

A lined version of 3M™ Low-Static Non-Silicone Polyimide Film Tape 7419, Amber  
Non-silicone adhesive formulation helps eliminate the potential for silicone contamination which can interfere with subsequent bonding or conformal-coating operations  
The h

## **Typical properties**

Adhesive Type: Acrylic  
Backing (Carrier) Material: Polyester  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Maximum Operating Temperature (Celsius): 155 °C  
Maximum Operating Temperature (Fahrenheit): 311 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Product Color: Brown  
Total Tape Thickness without Liner (Imperial): 1.81 mil  
Total Tape Thickness without Liner (Metric): 0.046 mm

## **Dimensions and Classifications**

Overall Length (Imperial): 36.089 yd  
Overall Length (Metric): 33 m  
Overall Width (Imperial): 24.0157 in  
Overall Width (Metric): 610 mm

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 240-5205-00

3M ID 7010395459 UPC 00051115602245

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2469-4

## Typical properties

- Brands: Textool™
- Factory ISO Certification: No ISO Certification information available
- Tech Sheet Number: TS-2469
- eClass 14 Classification Group: 27261708

# **3M™ Serial Attached SCSI (SAS) Connector, SBR-ST-29-S-ML, SBR Series, SBR-ST-29-S-ML**

3M ID 7000147192 UPC 00051115265006

## **Details**

6.0 Gbps input/output connector for backplane applications  
Two contact mating levels for early-mate and late-break allows "blind mating" or "hot swap" applications  
Capable of accepting HDD fitted with SAS or Serial Advanced Technology Attachment (SATA)

## **Typical properties**

Brands: 3M™  
Connector Style: Receptacle  
Current Rating: 1.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Lock  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 762 µm  
Mounting Type: Boardmount  
Number of Contacts: 29  
Orientation: Vertical  
PCB Mounting Style: Through Hole  
Packaged Form: Bulk  
Product Series: SBR  
Tech Sheet Number: TS-2204  
Termination Method: Solder  
Withstanding Voltage: 500 Vrms at Sea Level  
eClass 14 Classification Group: 27440307

# **3M™ Power Connectors for MicroTCA™ Applications, Female**

3M ID B5005035036

## **Details**

Supports PICMG MicroTCA (AdvancedMC™ 1.0) specification  
24 high power contacts and 72 high density signal contacts  
Backplane and daughtercard versions  
Press-fit termination  
Mating force: 145 N Max.; Withdrawal force: 110 N Max  
Supports 200 Mating Cyc

## **Typical properties**

Tech Sheet Number: TS-2366  
eClass 14 Classification Group: 27460201

# **3M™ Scotch™ Surface Protective Tape 331B**

3M ID B5005036060

## **Details**

No residue

Low adhesion level

Indoor and outdoor weather abilities are excellent

Because of no silicone back treatment there is no trouble of silicone transfer when used with printed circuit boards



# **3M™ Lapping Film 263X Roll, 40.0 Micron, 4 in x 150 ft x 3 in ASO, 4/Case**

3M ID 7000027557 UPC 00051111496954

## **Details**

Tight particle distribution  
Harder resin system than 261X  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## **Typical properties**

Abrasive Material: Aluminum Oxide  
Application: Flat Lapping, Grinding, Refining, Shaping, Superfinishing  
Attachment Type: Plain Back  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 40 µm  
Product Form: Roll, Sheet  
Product Series: 263X  
Product Usage: Optical  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## **Dimensions and Classifications**

Overall Length (Imperial): 150 ft  
Overall Length (Metric): 45.72 m  
Overall Width (Imperial): 4 in  
Overall Width (Metric): 101.6 mm

# 3M™ Lapping Film 061X

3M ID B5005035329

## Details

- Produces excellent surface finish
- Reduces overall process time
- Produces high yields
- Non-slurry processing

# 3M™ Static Dissipative Heat Activated Cover Tape 2678

## Details

Good haze performance for efficient visual inspection of taped components  
Suitable for a wide variety of electronic components  
Works well with 3M™ Polycarbonate Carrier Tapes with steady peeling range performance; and on some other carrier materials  
480

## Typical properties

Adhesive Features: Heat Activated  
ESD Material Type: Static Dissipative  
Elongation: 70 %, 100 %  
Factory ISO Certification: No ISO Certification information available  
Haze Percentage: 13.6 %, 27 %  
Maximum Sealing Temperature (Celsius): 220 °C  
Maximum Sealing Temperature (Fahrenheit): 428 °F  
Minimum Sealing Temperature (Celsius): 150 °C, 170 °C  
Minimum Sealing Temperature (Fahrenheit): 302 °F, 338 °F  
Product Usage: Discrete Components, ICs, LEDs, Passive Components, WLCSP  
eClass 14 Classification Group: 27140708

## Dimensions and Classifications

Overall Length (Imperial): 524.934 yd, 1585.739 yd  
Overall Length (Metric): 480 m, 1450 m  
Overall Thickness (Imperial): 0.002 in  
Overall Thickness (Metric): 0.062 mm  
Overall Width (Imperial): 0.217 in, 0.366 in  
Overall Width (Metric): 5 mm, 5.4 mm, 5.5 mm, 9.3 mm, 13.3 mm

## **3M™ Bumpon™ Protective Products SJ5008**

### **Details**

Replaces surface mount capacitors, saving valuable space in wearable devices  
Can be used in high-speed digital applications, providing distributed capacitance for power supply decoupling, and as low pass filters in analog applications  
Simplifies board

### **Typical properties**

Adhesive Type: Natural Rubber (R30)  
Application: Washer and Dryer Lid and Hatch Stop  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Base Width: 0.500 in  
Base Width (Metric): 12.7 mm  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Gray, White  
Product Form: Molded  
Product Series: SJ5008  
Product Type: Bumper  
Shape: Square-Tapered w/ Flat Top  
Width-Diameter Range: 0.500 - 0.599 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

### **Dimensions and Classifications**

Overall Height (Imperial): 0.122 in  
Overall Height (Metric): 3.1 mm  
Overall Length (Imperial): 0.5 in  
Overall Length (Metric): 12.7 mm  
Overall Width (Imperial): 0.5 in  
Overall Width (Metric): 12.7 mm

# 3M™ Bumpon™ Protective Products SJ5307 Clear, 3000/Case

3M ID 7000052064 UPC 00021200412561

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Base Width: 0.413 in  
Base Width (Metric): 10.4 mm  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 2.0 - 2.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ5307  
Product Type: Bumper  
Shape: Square-Tapered w/ Flat Top  
Width-Diameter Range: 0.400 - 0.499 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.098 in  
Overall Height (Metric): 2.5 mm  
Overall Length (Imperial): 0.413 in  
Overall Length (Metric): 10.5 mm  
Overall Width (Imperial): 0.413 in  
Overall Width (Metric): 10.5 mm

# 3M™ Bumpon™ Resilient Rollstock SJ5904

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Cushioning Spacer, Cushioning Stop, Dampen Noise/Reduce Vibration, Die Cut Parts for Drink Holder, Gasketing, Surface Protection for Sub-Assembly Racks  
Availability: Stocked  
Backing Material: Polyurethane Foam  
Factory ISO Certification: No ISO Certification information available  
Hardness: 36 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 6.0 - 6.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Rollstock  
Product Type: Rollstock  
Roll Width (Imperial): 4.5 in, 9 in  
Roll Width (Metric): 114 mm, 229 mm  
Shape: Rollstock  
Width-Diameter Range: 4.00 - 4.99 in, 9.00 - 9.99 in  
Width-Diameter Range (Metric): 100.0 - 199.9 mm, 200.0 - 299.0 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Length (Imperial): 18 yd  
Overall Length (Metric): 16.45 m  
Overall Thickness (Imperial): 0.25 in  
Overall Thickness (Metric): 6.4 mm  
Overall Width (Imperial): 4.5 in, 9 in  
Overall Width (Metric): 11.43 cm, 22.86 cm

# 3M™ Bumpon™ Resilient Rollstock SJ6216

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Cushioning Spacer, Cushioning Stop, Gasketing, Sunroof/Moon roof  
Cushioning Spacer  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.001 - 0.099 in  
Height-Thickness Range (Metric): 1.0 - 1.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Rollstock  
Product Series: SJ6216  
Product Type: Rollstock  
Roll Width (Imperial): 4.5 in, 9 in  
Roll Width (Metric): 114 mm, 229 mm  
Shape: Rollstock  
Width-Diameter Range: 4.00 - 4.99 in, 9.00 - 9.99 in  
Width-Diameter Range (Metric): 100.0 - 199.9 mm, 200.0 - 299.0 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Length (Imperial): 36 yd  
Overall Length (Metric): 32.91 m  
Overall Thickness (Imperial): 0.062 in, 0.063 in  
Overall Thickness (Metric): 1.6 mm  
Overall Width (Imperial): 4.5 in, 9 in  
Overall Width (Metric): 11.43 cm, 22.86 cm

# 3M™ Bumpon™ Protective Products SJ5406 White, 3000/Case

3M ID 7000002015 UPC 00021200242274

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: White  
Product Form: Molded  
Product Series: SJ5406  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.375 in  
Overall Diameter (Metric): 9.5 mm  
Overall Height (Imperial): 0.15 in  
Overall Height (Metric): 3.8 mm  
Overall Length (Imperial): 0.375 in  
Overall Length (Metric): 9.5 mm  
Overall Width (Imperial): 0.15 in  
Overall Width (Metric): 3.8 mm



# **3M™ Bumpon™ Protective Products SJ5706**

3M ID B5005035215

## **Details**

- All 3M™ Bumpon™ Protective Products feature a urethane composition
- Easy application with 3M pressure-sensitive adhesives
- High skid-resistance
- Won't scratch or stain surfaces
- Reduces vibration and noise
- Will not crack or harden

## **Typical properties**

eClass 14 Classification Group: 23330803

## **3M™ Strain Relief Accessory Series 3448-8DXXA**

3M ID B5005249005 UPC 00054007675891

### **Details**

Available in either open or closed end cover  
Available with dimples to aid in EMI/ESD protection  
Improved metal strain relief hooks directly to metal shell  
Low profile  
Four mounting options  
See Regulatory Information Appendix (last page of Tech Data)

### **Typical properties**

Compatible Number of Contacts: 9 , 15 , 25 , 37  
Factory ISO Certification: No ISO Certification information available  
For Use With: D Sub Connectors  
Material: Stainless Steel  
Product Type: Strain Relief  
Strain Relief Type: Metal  
Tech Sheet Number: TS-0234  
eClass 14 Classification Group: 27440392

# **3M™ Expanded Beam Optical Patch Cord**

3M ID B5005089031

## **Details**

- Expanded beam technology provides reduced sensitivity to dust
- Single Mode and Multimode options
- Ferrule design supports 12 fibers
- Hermaphroditic component geometry eliminates need for male and female connectors
- Simple connector latch for quick, effort

## **Typical properties**

Tech Sheet Number: TS-0295

# 3M™ USB3 Vision Industrial Camera Cable Assembly 1U30G Series

3M Product Number 1U30G Series 3M ID B5005143006

## Details

Strong transmission > 7 m, the longest known functional cable length in USB3 Vision®

Moveable cable has outstanding repeated bending durability, tested at >100 million cycles

Excellent U-shaped sliding durability

Micro-B connector available in a variety

## Typical properties

Application: High-flexibility Connecting, High-speed Connecting, High-speed Data Transmission

Cable Outside Diameter (Imperial): 0.272 in

Cable Outside Diameter (Metric): 6.9 mm

Connector Style (End A): Plug

Connector Style (End B): Plug

Connector Type (End A): USB Micro B

Connector Type (End B): USB Standard A

Product Color: Black

Product Series: 1U30G

Product Usage: Cameras, Control Units

Protocol: USB3 Vision

Tech Sheet Number: TS-2791

## **3M™ Diamond Pad Conditioner C Series**

### **Details**

Optimized diamond shape, pitch control and diamond orientation  
Improved consistency and reduced disk-to-disk variation  
Slower pad wear rate decay with stable removal rate and profile  
Enables potential for longer disk life and pad life  
Uses 3M sintered

### **Typical properties**

Abrasive Material: Diamond  
Application: Advanced Node (Memory & Logic), CMP, Wafer Manufacturing  
CMP Process: Cu (Bulk)  
Carrier Diameter (Imperial): 4 in, 4.25 in  
Carrier Diameter (Metric): 101.6 mm, 107.95 mm  
Diamond Size: 250 micron  
Product Series: C  
Product Type: Diamond Pad Conditioner

## **3M™ Camera Link Industrial Camera Cable Assembly, MDR/SDR, 1Mx26-xFxx Series**

3M Product Number 1Mx26-xFxx Series 3M ID B5005510004 UPC 00051111657850

### **Details**

MDR-to-SDR assembly for Camera Link cable extension  
Features Starlight MDR receptacle connector with EMI shield junction shell on one end and a Starlight SDR plug connector on the other  
Excellent for use with 1M x 26-x5xx or 14 x 26 cables  
Base-medium

### **Typical properties**

Application: High-flexibility Connecting, High-speed Connecting, High-speed Data Transmission

Brands: 3M™

Cable Length (Imperial): 3.281 ft, 6.562 ft, 16.404 ft, 32.808 ft

Cable Length (Metric): 1 m, 2 m, 5 m, 10 m

Cable Outside Diameter (Imperial): 0.354 in

Cable Outside Diameter (Metric): 9 mm

Connector Style (End A): Receptacle

Connector Style (End B): Plug

Connector Type (End A): MDR

Connector Type (End B): SDR

Factory ISO Certification: No ISO Certification information available

Product Color: Beige

Product Series: 1Mx26-xFxx

Product Usage: Cameras, Control Units, Frame Grabbers

Protocol: CameraLink

Tech Sheet Number: TS-2799

# **3M™ Solder Cup D Sub Plug, 8000 Series, 88850-5000,50P D-SUB PCB Right angle, solder tail, female, 120 Each/Case**

3M ID 7100317701 UPC 00068060597939

## **Details**

Available contact: 50 pos  
360° shielding for excellent EMI protection  
30µ" gold plating within contact area for a reliable connection  
RoHS compliant  
Mates with 3M™ D-Sub Plug 8250 Series  
Right angle socket

## **Typical properties**

Brands: 3M™  
Connector Style: Receptacle  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Number of Contacts: 50  
PCB Mounting Angle: Right Angle  
Tech Sheet Number: TS-2795  
Termination Method: Solder Tail

## **3M™ Pin Strip Header .039" (1.0 mm) 9X9 Series**

3M ID B5005541002 UPC 00068060599445

### **Details**

Offer positions 6-80  
Straight and sufracemount applications  
Gold flash plating  
Space-saving design

### **Typical properties**

Brands: 3M™  
Connector Style: Pin Header  
Number of Contacts: 6 , 8 , 10 , 16 , 20 , 22 , 26 , 30 , 40 , 50 , 60 , 80  
PCB Mounting Angle: Straight  
PCB Mounting Style: Surface Mount  
Pitch (Imperial): 0.039 in  
Pitch (Metric): 1 mm  
Product Series: 949, 959  
Tech Sheet Number: TS-2803



# **3M™ Round Conductor Flat Cable for Cc-Link/Lt, 79100 Series, 79100-075-4FLT, 200 m**

3M ID 7010321950 UPC 04548623208671

## **Details**

Designed for CC-Link/LT industrial automation field networks  
Conforms to CC-Link/LT  
18 AWG [0.75 mm<sup>2</sup> ] on 0.100" [2.54 mm] centers permits IDC termination  
Recommended for use with 3M™ Link Connectors  
RoHS Compliant. See the Regulatory Information Appe

## **Typical properties**

Application: Mass Termination  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Jacket Material: PVC  
Number of Conductors: 4  
Number of Strands: 35  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Tech Sheet Number: TS-2322  
Wire Size: 18 AWG  
eClass 14 Classification Group: 27060106

## **3M™ Polycarbonate Carrier Tape 3200R Series**

3M Product Number 3200R 3M ID B5005425000

### **Details**

Features extremely small pocket holes, helping reduce production delays due to solder bump sticking

3M Optical Precision Process creates ultra small pocket holes of less than 0.01 mm

Reduces pocket opening radius in thin package semiconductor applicatio

### **Typical properties**

Application: Electronic Component Packaging

Material: Polycarbonate

Product Color: Black

Product Usage: Bare Die, Discrete Components, ICs, LEDs, Passive Components, WLCSP

Surface Resistance:  $1.0 \times 10^4 \Omega$  -  $1.0 \times 10^8 \Omega$

eClass 14 Classification Group: 27140708

# 3M™ Electrically Conductive Single-Sided Tape 5113SFT

## Details

Isotropic XYZ-axis conductivity through the adhesive  
Excellent grounding with small contact areas for microelectronics  
High adhesion for reliable electrical contact to many substrates including select low-surface-energy substrates  
Excellent EMI shieldi

## Typical properties

Adhesion Strength (Imperial): 1500 gf/in  
Adhesive Type: Polyolefin  
Application: EMI Shielding, Electrostatic Discharge (ESD), Passive Intermodulation (PIM) Management  
Backing (Carrier) Material: Woven Fabric  
Electrical Resistance: XY-axis 0.01  $\Omega$ , Z-axis 0.03  $\Omega$   
Liner Material: PET  
Maximum Operating Temperature (Celsius): 121 °C  
Maximum Operating Temperature (Fahrenheit): 250 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Product Color: Gray  
Product Usage: Camera Modules, Display Chip on Flex, Display Wraps, EMI Shields, Sensors  
Shelf Life: 48 Month  
Total Tape Thickness without Liner (Imperial): 2 mil  
Total Tape Thickness without Liner (Metric): 0.05 mm

## Dimensions and Classifications

Overall Length (Imperial): 10.936 yd, 32.808 yd, 65.617 yd  
Overall Length (Metric): 10 m, 30 m, 60 m  
Overall Width (Imperial): 0.984 in, 1.969 in, 4.134 in, 8.268 in, 19.685 in, 42.52 in  
Overall Width (Metric): 25 mm, 50 mm, 105 mm, 210 mm, 500 mm, 1080 mm

# 3M™ Twin Axial PCI Express Extender Assemblies Gen 4.0 8Kxx Series

3M Product Number 8Kxx Series 3M ID B5005520003 UPC 08887862449091

## Details

Foldable twin axial cable is excellent for managing external rack space, adding system design possibilities

Continuous longitudinal shielding allows for high-bandwidth, resonance free SI performance

Thin ribbon cable construction allows easy routing and

## Typical properties

Application: High-speed Data Transmission

Characteristic Impedance: 85 ohms

Connector Style (End A): Edgecard

Connector Style (End B): Receptacle

Connector Type (End A): ST

Connector Type (End B): RA, ST

Factory ISO Certification: No ISO Certification information available

Form Factor: PCIe© CEM, PCIe© Card Edge

Number of Cable Assembly Lanes: x16, x8

Number of Conductors: 98 , 164

Product Usage: Riser Cables

Protocol: PCIe©

Standard Size: 0.25 m, 0.5 m

Tech Sheet Number: TS-2805

Wire Gauge (Imperial): 30 AWG

eClass 14 Classification Group: 19051003

## Dimensions and Classifications

Overall Length (Imperial): 9.84 in, 19.69 in

Overall Length (Metric): 250 mm, 500 mm

# 3M™ Boardmount D-Sub Right Angle Plug Connector 886 Series

3M ID B5005537002 UPC 00068060597656

## Details

Available contact: 9, 15, 25 and 37 positions  
360° shielding for excellent EMI protection  
30µ" gold plating within contact area for a reliable connection  
RoHS compliant  
Mates with 3M™ D-Sub Socket 8300 Series  
Right angle plug

## Typical properties

Brands: 3M™  
Connector Style: Plug  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Number of Contacts: 9 , 15 , 25 , 37  
PCB Mounting Angle: Right Angle  
Tech Sheet Number: TS-2793  
Termination Method: Solder Tail

# **3M™ Assembly Nest, 3481 Series**

3M ID B00026216

## **Typical properties**

Tech Sheet Number: FA-0017

# 3M™ Textool™ Test & Burn-In Ball Grid Array Sockets 93XX Series

3M ID B10398173 UPC 04549395071210

## Details

Double-beam normally-closed contact delivers balanced, opposing forces to solder ball with minimal shear stress  
Contact tips touch ball above its center plane moving ball deformation away from seating plane  
Designed to allow excellent air flow around de

## Typical properties

Factory ISO Certification: No ISO Certification information available  
Frame Style: BGA Open-top  
Number of Positions: 124 , 144 , 256 , 324 , 400 , 416 , 484 , 672 , 676 , 900 , 1152 , 1156 , 1760  
PCB Mounting Style: Through Hole  
Tech Sheet Number: TS-9300  
eClass 14 Classification Group: 27261708

# **3M™ MetPak™ HM Power Header, HM Series**

3M ID B10406862

## **Details**

Modular/scalable format IEC 61076-4-101

Press-fit or solder tail version

63 mated lines per linear inch

Four integrated 8.25 A power blades

Ships with protective cap, which also serves as an insertion tool

End-to-end stackable with 5 row 3M™ MetPak™

## **Typical properties**

Tech Sheet Number: TS-2089

eClass 14 Classification Group: 27460201



## **3M™ Molded Assembly 2M Series**

3M Product Number 2M Series 3M ID B00035047 UPC 00076308710910

### **Details**

Excellent for robust long-term connections in high-vibration environments  
Excellent for use with or without high flex cable applications  
Molded one-piece design shields against elements  
Completed assemblies simplify parts management, virtually eliminat

### **Typical properties**

Application: Wire-to-board Connecting  
Connector Style (End A): Plug, Receptacle  
Connector Style (End B): Plug, Receptacle  
Connector Type (End A): PCB, Socket  
Connector Type (End B): PCB, Socket  
Factory ISO Certification: No ISO Certification information available  
Number of Conductors: 6 , 8 , 10 , 16 , 20 , 26 , 30 , 34 , 40 , 44 , 50  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Tech Sheet Number: TS-2753  
eClass 14 Classification Group: 27460202

# **3M™ PLCC Surface Mount Test Clips**

3M ID B00035159 UPC 00054007801214

## **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: FB-0017

## **3M™ Textool™ Test & Burn-In SOIC Sockets**

3M ID B00035242 UPC 04519001371775

### **Details**

Lid can be actuated from top or front and is compatible with automated load/unload equipment  
Compact envelope and side to side stackability maximize board density  
Tweezer slot for easy manual loading/unloading  
Lid applies 80 grams normal force per lead

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Frame Style: Clamshell  
Number of Positions: 8 , 14 , 16 , 18 , 20 , 24 , 28  
PCB Mounting Style: Through Hole  
Tech Sheet Number: TS-0338  
eClass 14 Classification Group: 27261708

## **3M™ High-Routability External miniSAS Cable Assembly, 8G26 Series**

3M Product Number 8G26 Series 3M ID B00035509 UPC 00076308104771

### **Details**

Ideal for high-speed data transmission in miniSAS applications  
Meets the SFF-8086/8088 standard for external miniSAS interface  
Continuous longitudinal shielding virtually eliminates signal loss even when folded  
Meets SATA 2.0 and 2.1 requirements  
Fold

### **Typical properties**

Application: High-speed Data Transmission, Networking  
Characteristic Impedance: 100 ohms  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): ST  
Connector Type (End B): ST  
Factory ISO Certification: No ISO Certification information available  
Form Factor: MiniSAS  
Number of Cable Assembly Lanes: x4  
Number of Conductors: 16  
Product Series: 8G26  
Product Usage: NIC (Network Interface Card), Routers, Switch  
Protocol: SAS, SATA  
Standard Size: 3.0 m, 2.0 m, 1.0 m  
Tech Sheet Number: TS-4815  
Wire Gauge (Imperial): 28 AWG, 30 AWG  
eClass 14 Classification Group: 19051003

### **Dimensions and Classifications**

Overall Length (Imperial): 19.69 in, 39.37 in, 49.21 in, 59.06 in, 78.74 in, 90.55 in, 118.11 in, 157.48 in, 196.85 in  
Overall Length (Metric): 0.5 m, 1 m, 1.25 m, 1.5 m, 2 m, 2.3 m, 3 m, 4 m, 5 m

## **3M™ Twin Axial Cable Assembly for Internal miniSAS Applications, 8F36 Series**

3M Product Number 8F36 Series 3M ID B00035537 UPC 00638060414842

### **Details**

Supports high-speed data transfer in compact 36P miniSAS applications  
Low-profile design is ideal for packaging in space-constrained environments  
Meets SATA 3.0 protocols  
Flexible flat cable can be folded back on itself for greater functionality in sma

### **Typical properties**

Application: High-speed Data Transmission  
Characteristic Impedance: 100 ohms  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): ST  
Connector Type (End B): ST  
Factory ISO Certification: No ISO Certification information available  
Form Factor: MiniSAS  
Number of Cable Assembly Lanes: x4  
Number of Conductors: 36  
Product Series: 8F36  
Product Usage: Backplane/Midplane, Board-to-board, Mid-board Cables  
Protocol: SAS, SATA  
Standard Size: 1.0 m, 0.5 m  
Tech Sheet Number: TS-2363  
Wire Gauge (Imperial): 30 AWG  
eClass 14 Classification Group: 19051003

### **Dimensions and Classifications**

Overall Length (Imperial): 3.94 in, 7.87 in, 9.84 in, 14.17 in, 15.75 in, 19.69 in, 25.59 in, 29.53 in, 39.37 in, 157.48 in, 275.59 in  
Overall Length (Metric): 0.1 m, 0.2 m, 0.25 m, 0.36 m, 0.4 m, 0.5 m, 0.65 m, 0.75 m, 1 m, 4 m, 7 m

# 3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14526-EZ8B-XXX-07C

3M ID B00035612 UPC 00051135217290

## Details

Solution for Digital Displays, Datacom and Telecom applications  
Supports LVDS FPD Link™, FlatLink™, ChannelLink™, PanelLink™/TMDS™ electrical interfaces  
Each differential twin-ax pair has a foil shield and drain  
Entire cable bundle is shielded with foil

## Typical properties

Cable Length (Imperial): 1.969 ft, 3.281 ft, 4.921 ft, 6.562 ft, 9.843 ft, 16.404 ft, 32.808 ft  
Cable Length (Metric): 0.6 m, 1 m, 1.5 m, 2 m, 3 m, 5 m, 10 m  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): MDR  
Connector Type (End B): MDR  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Jacket Material: PVC  
Number of Positions: 26  
Shell Material: ABS  
Specifications Met: AWM VW-1  
Tech Sheet Number: TS-0757  
Voltage Rating: 30.0 V  
eClass 14 Classification Group: 27060304

# **3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14520-EZDB-XXX-0EC**

3M ID B00035633

## **Details**

Supports VESA™ DFP standard for 20 position MDR at host and DISM standard for 26 position at LCD monitor  
Signal protection with each differential twin-ax pair has a foil shield and drain wire  
Entire cable bundle is shielded with foil and braid for addit

## **Typical properties**

Current Rating: 1.0 A  
Jacket Material: PVC  
Number of Positions: 20  
Shell Material: ABS  
Specifications Met: AWM VW-1  
Tech Sheet Number: TS-0883  
eClass 14 Classification Group: 27060304

## **3M™ Mini Delta Ribbon (MDR) Cable Assembly, 4120-4120-XX-B Series**

3M ID B00035683 UPC 00051138410735

### **Details**

IEEE 1284 compliant cable assembly  
Assembly construction bridges old design standard to newest one  
Available in 6, 10 and 30 foot lengths  
Excellent EMI/ESD protection  
Quick release latches, Type C Plug to Type C Plug  
All connectors have 30 micro inch

### **Typical properties**

Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: TS-0642  
eClass 14 Classification Group: 27060304



# 3M™ CF Card Ejector and Latching Retainer, 7E50 Series

3M ID B00036074 UPC 04519001022448

## Details

Mounts to 3M's CompactFlash™ Type II, Long Guide, Surface Mount Headers  
Modular "snap on" design and multiple button types for design flexibility  
Can be used with either top or bottom mount (normal or inverse polarization) headers  
Latching retainer is

## Typical properties

Factory ISO Certification: No ISO Certification information available  
For Use With: Compact Flash Headers  
Number of Contact Rows: 0 , 1 , 2  
Number of Contacts: 50  
Tech Sheet Number: TS-2154  
eClass 14 Classification Group: 27440292

## Dimensions and Classifications

Overall Height (Imperial): 0.28 in

## **3M™ Novec™ 1230 Fire Protection Fluid**

### **Details**

Waterless fire extinguishing clean agent  
Replacement clean agent for halon and hydrofluorocarbons (HFCs)  
Zero ozone depletion potential (ODP) and global warming potential (GWP) of less than one  
Provides the highest known margin of safety for human occu

### **Typical properties**

Boiling Point (Celsius): 49.2 °C  
Boiling Point (Fahrenheit): 120.56 °F  
Brands: Novec™  
Container Type: Drum, Glass Jug  
Factory ISO Certification: No ISO Certification information available  
Net Weight (Imperial): 11 lb, 661 lb, 2425 lb  
Net Weight (Metric): 5 kg, 300 kg, 1100 kg  
Product Series: Novec 1230  
Product Usage: Archives, Flightline, Fluid (Oil & Gas), Museums  
Volume (Imperial): 1 gal, 55 gal, 200 gal  
Volume (Metric): 3.78 L, 208.198 L, 757.082 L

# **3M™ Connector for PC104 Embedded Systems Applications, Bus Compatible, 4P01/4P02 Series**

3M ID B00036410

## **Details**

- 3M PC104 Connectors
- Standard PC104 pin-and-socket connectors
- Rugged and reliable 64- and 40-contact male/female headers
- Simple contact design to accommodate many standoff heights
- Available in solder tail
- PC104 Standard Benefits
- Compact form factor a

## **Typical properties**

- Tech Sheet Number: TS-2395
- eClass 14 Classification Group: 27460201

## **3M™ MDR Hand Press, 3829**

3M ID B00026214 UPC 00051138322212

### **Typical properties**

Factory ISO Certification: No ISO Certification information available

For Use With: MDR Connectors

Tech Sheet Number: FA-0022

eClass 14 Classification Group: 21049090

## **3M™ Power Clamp Header Straight 356 Series**

3M Product Number 356 Series 3M ID B00036747 UPC 04547452450206

### **Details**

Industry-leading Power Clamp technology for secure and reliable electrical connections

Designed for easy board mounting, saving time and effort during installation

Available in both vertical and straight configurations to fit different board layouts

Of

### **Typical properties**

Application: Wire-to-board Connecting

Connection Type: Solder

Connector Style: Pin Header

Factory ISO Certification: No ISO Certification information available

Insulation Material: Glass Filled Polyester (PBT), Nylon

Mounting Type: Boardmount

Number of Contact Rows: 1 , 2

Number of Contacts: 5 , 10

Pitch (Imperial): 0.12 in

Pitch (Metric): 3 mm

Product Color: Black

Specifications Met: China RoHS, RoHS 2011/65/EU

Tech Sheet Number: TS-2274

Termination Method: Solder

eClass 14 Classification Group: 27460202

# 3M™ Electrically Conductive Adhesive Transfer Tape 9712

## Details

Isotropic XYZ-axis electrical conductivity  
Thicker adhesive than 3M™ XYZ-Axis Electrically Conductive Tape 9713  
Uses nonwoven carbon fiber scrim (usually leads to higher surface contact resistance than 3M™ XYZ-Axis Electrically Conductive Tape 9713)  
Go

## Typical properties

Adhesion Strength (Imperial): 1500 gf/in  
Adhesive Type: Acrylic  
Application: Attaching, Electrostatic Discharge (ESD), Grounding, Interconnecting  
Backing (Carrier) Material: Non-woven  
Electrical Resistance: Z-axis 13  $\Omega$ , XY-axis 50-70  $\Omega$   
Factory ISO Certification: No ISO Certification information available  
Liner Material: PET  
Maximum Operating Temperature (Celsius): 121 °C  
Maximum Operating Temperature (Fahrenheit): 250 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Product Color: Gray  
Product Usage: Bond Line Gaps, Chassis, EMI Gaskets, EMI Shields, Flexible Printed Circuits, Printed Circuit Boards, Sensors  
Shelf Life: 24 Month  
Total Tape Thickness without Liner (Imperial): 5 mil  
Total Tape Thickness without Liner (Metric): 0.127 mm

## Dimensions and Classifications

Overall Length (Imperial): 36 yd  
Overall Length (Metric): 32.918 m  
Overall Width (Imperial): 0.25 in, 0.5 in, 1 in  
Overall Width (Metric): 6.35 mm, 12.7 mm, 25.4 mm

## **3M™ Twin Axial Cable, SL8803/08 Series, 4 Pair, 8 Drains**

3M ID B00026594 UPC 00051115599521

### **Details**

Flat, foldable

High Bandwidth

Mass processing and termination

Internal miniSAS, SFF 8087

Fanout cable

See Regulatory Information Appendix link for chemical compliance information

For more information refer to Customer Drawing 78-5100-2414-0

### **Typical properties**

Conductor Material: Copper

Factory ISO Certification: No ISO Certification information available

Impedance: 100  $\Omega$

Insulation Color: Silver

Insulation Material: Polyolefin

Number of Conductors: 8

Number of Pairs: 4

Pitch (Imperial): 0.093 in

Pitch (Metric): 2.37 mm

Product Series: SL8803

Tech Sheet Number: TS-2414

Wire Size: 30 AWG

eClass 14 Classification Group: 19051003

# **3M™ Heat Resistive Polyimide Film Tape 7414**

Part Number 7414 3M ID B00038645

## **Details**

- High temperature resistance up to 260C x few minutes (multiple reflow cycles)
- Easy removal and no damage to substrate surface
- No residue & no staining
- Die cut converting process friendly
- Clean room manufacturing
- Acrylic adhesive leaves no silicone re



## 3M™ Pak 50 Low Profile Wiremount Socket, P25LE Series

3M Product Number P25LE Series 3M ID B00038698 UPC 00051111662083

### Details

Terminates 25 mil pitch, 30 AWG stranded wire, PVC insulated flat ribbon cable  
Low profile 11.8 mm mated height is ideal for space-constrained applications  
Latch/eject mechanism adds connection reliability  
Cable strain relief provides durability

### Typical properties

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Contact Base Material: Phosphor Bronze  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Feed Through, Strain Relief  
Insulation Color: Black  
Insulation Material: Glass Filled Nylon  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 250 \text{ VDC}$   
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial):  $<10 \mu\text{in}$   
Mating Contact Finish Thickness (Metric):  $<0.25 \mu\text{m}$   
Maximum Conductor Size (Imperial): 30 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Conductor Size (Imperial): 30 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 20 , 30 , 40 , 50 , 60 , 68 , 80 , 100  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Series: P25LE  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-1142  
Termination Method: IDC  
Withstanding Voltage: 300 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

## **3M™ Round Conductor Flat Cable 3365 Series**

3M Product Number 3365 Series 3M ID B00039568 UPC 00054007305422

### **Details**

Stranded copper wire for flexibility and extended cable life  
Zippable design allows for branching or discrete termination  
Size 28 AWG wire on .050 in. centers for mass termination to IDC connectors  
Easy installation and routing  
Compatible with a broad

### **Typical properties**

Application: Mass Termination  
Cable Type: Stranded  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Black, Gray  
Insulation Material: PVC  
Number of Conductors: 6 , 8 , 9 , 10 , 11 , 12 , 14 , 15 , 16 , 18 , 20 , 24 , 25 , 26 ,  
28 , 30 , 34 , 36 , 37 , 40 , 44 , 50 , 60 , 64  
Number of Strands: 7  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Specifications Met: FT1, RoHS 2011/65/EU  
Tech Sheet Number: TS-0080  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft, 300 ft  
Overall Length (Metric): 30.48 m, 91.44 m

## **3M™ Round Conductor Flat Cable 3801 Series**

3M Product Number 3801 Series 3M ID B00039604 UPC 00051115264641

### **Details**

Zippable cable design allows for easy branching or termination  
Size 26 AWG wire supports high power levels  
Stranded-wire construction offers flexibility and durability  
.050 in. pitch cable for precise connections  
Great for applications requiring high

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Gray, Multi-color  
Insulation Material: PVC  
Number of Conductors: 4 , 6 , 8 , 9 , 10 , 12 , 14 , 15 , 16 , 18 , 20 , 24 , 25 , 26 ,  
30 , 34 , 36 , 37 , 40 , 44 , 50 , 60 , 64  
Number of Strands: 7  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Specifications Met: RoHS 2011/65/EU  
Tech Sheet Number: TS-0063  
Wire Size: 26 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft  
Overall Length (Metric): 30.48 m

## **3M™ Round Conductor Flat Cable, 3667 Series**

3M Product Number 3667 Series 3M ID B00039644 UPC 00054007618409

### **Details**

- Easy to handle and install
- Flexible for space-saving advantages
- Helps provide reliable electrical performance
- Durable PVC jacket helps protect against environmental factors
- Split and bonded design allows for easy separation and termination
- Size 28 AW

### **Typical properties**

- Application: Mass Termination
- Factory ISO Certification: No ISO Certification information available
- Insulation Color: Gray
- Insulation Material: PVC
- Number of Conductors: 10 , 14 , 20 , 24 , 34 , 40 , 50 , 60 , 64
- Number of Strands: 7
- Pitch (Imperial): 0.05 in
- Pitch (Metric): 1.27 mm
- Specifications Met: RoHS 2011/65/EU
- Tech Sheet Number: TS-0247
- Wire Size: 28 AWG
- eClass 14 Classification Group: 27060106

## **3M™ Ground Plane Cable, 3353 Series**

3M ID B00039675

### **Details**

28 AWG wire on .050 inch wire spacing permits mass termination to a broad line of IDC connectors

Ground plane construction for increased signal density or improved transmission properties

Stranded wire provides flexibility and extended product life

Gro

### **Typical properties**

Application: Signal Integrity

Jacket Material: PVC

Tech Sheet Number: TS-0078

Wire Size: 28 AWG

eClass 14 Classification Group: 27060106

## **3M™ Round Conductor Flat Cable 3609 Series**

3M Product Number 3609 Series 3M ID B00039698

### **Details**

Low dielectric constant for enhanced signal integrity and performance  
Excellent mechanical durability for long-lasting use in demanding environments  
FEP insulation for excellent abrasion and chemical resistance  
Nonflammable design  
UL recognized to 150

### **Typical properties**

Application: Mass Termination  
Insulation Material: FEP  
Number of Strands: 7  
Pitch (Imperial): 0.025 in  
Pitch (Metric): 0.635 mm  
Tech Sheet Number: TS-0654  
Wire Size: 30 AWG  
eClass 14 Classification Group: 27060106

## **3M™ High Routability Internal MiniSAS HD Cable Assembly, Shortened Connector, 8U Series**

3M Product Number 8U Series 3M ID B00046080

### **Details**

Shortened 18 mm connector adds versatility and allows for more efficient use of space

Low-profile cable design helps preserve board space and makes for efficient cable management

Flat cable can be folded with extremely tight bend radii for custom folded

### **Typical properties**

Application: High-speed Data Transmission

Characteristic Impedance: 100 ohms

Connector Style (End A): Plug

Connector Style (End B): Plug

Connector Type (End A): ST

Connector Type (End B): ST

Form Factor: MiniSAS HD

Number of Cable Assembly Lanes: x4

Number of Conductors: 36

Product Series: 8U

Product Usage: Backplane/Midplane, Board-to-board, Mid-board Cables

Protocol: SAS, SATA

Standard Size: 0.75 m, 0.25 m, 1.0 m, 0.5 m

Tech Sheet Number: TS-2658

Wire Gauge (Imperial): 30 AWG

eClass 14 Classification Group: 19051003

## **3M™ Pak 50 Low Profile Socket, P50L Series**

3M Product Number P50L Series 3M ID B00046523 UPC 00051111740194

### **Details**

Low profile (7-12 mm) is ideal for through-hole board stacking  
High temperature insulator allows IR and wave soldering  
Guide posts help minimize misalignment  
Vertical stacking connectors are available with and without flanges  
Retention clips help stab

### **Typical properties**

Application: Board-to-board Connecting  
Connector Style: Receptacle  
Factory ISO Certification: No ISO Certification information available  
Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 500 VDC  
Mating Option: None  
Number of Contact Rows: 2  
Number of Contacts: 40 , 50 , 60 , 80  
PCB Mounting Style: Through Hole  
Process Temperature Rating: 260 °C (Per J-STD-020C)  
Tech Sheet Number: TS-2054  
eClass 14 Classification Group: 27460201



## **3M™ Boardmount Socket, 950 Series**

3M ID B00046567

### **Details**

Maximizes use of PC board space

High temperature dielectric

No lead reflow solder compatible

Dual row design, 6-50 pins

Mates with pin-strip header products

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance in

### **Typical properties**

Application: Board-to-board Connecting

Tech Sheet Number: TS-2167

eClass 14 Classification Group: 27460201

# 3M™ Four-Wall Header Straight Compliant Pin 3000 Series

3M Product Number 3000 Series 3M ID B00046666 UPC 08887862422612

## Details

Military and centerbump polarization helps minimize inaccurate connections  
Eye-of-the needle pin design allows precise contact  
Mounting holes help simplify board attachment  
Polarizing posts are optional for accurate alignment  
Optional ejector latches

## Typical properties

Application: Wire-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Header, Plug  
Contact Base Material: Copper Alloy  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: Mounting Flange  
Insulation Color: Black  
Insulation Height (Imperial): 0.68 in  
Insulation Height (Metric): 17.27 mm  
Insulation Material: Glass Filled Polyester (PBT) or High Temperature (PCT)  
Latch/Ejector Type: Latch Lock/Eject Hooks (Long), Latch Lock/Eject Hooks (Short), Push-in/Pull-out  
Mating Contact Finish Material: Gold  
Mating Option: Board to Cable, Board to Wire  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 10 , 14 , 16 , 20 , 24 , 30 , 34 , 40 , 50 , 60 , 64  
PCB Mounting Angle: Straight  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 0.1 mm  
Post Contact Finish Material: Matte Tin  
Product Series: 3000  
Shroud Style: 4 Wall  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-0478  
Voltage Rating: 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

## **3M™ Serial Attached SCSI (SAS) Connector, SBR-EV-29-P-ML, SBR Series**

3M ID B00048306 UPC 00051111734117

### **Details**

6 Gbps input/output connector for backplane applications  
Two contact mating levels for early-mate and late-break allows "blind mating" or "hot swap" applications  
Capable of accepting HDD fitted with SAS or Serial Advanced Technology Attachment (SATA) He

### **Typical properties**

Connector Style: Receptacle  
Current Rating: 1.5 A  
Factory ISO Certification: No ISO Certification information available  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 762 µm  
Mounting Type: Boardmount  
Number of Contact Rows: 1  
Number of Contacts: 29  
Orientation: Vertical  
Packaged Form: Tray  
Product Series: SBR  
Tech Sheet Number: TS-2177  
Termination Method: Solder  
Withstanding Voltage: 500 Vrms at Sea Level  
eClass 14 Classification Group: 27440307

# **3M™ MetPak™ HM Press-Fit Socket, HM Series**

3M ID B10467821

## **Details**

Modular/scalable format IEC 61076-4-101

63 mated lines per linear inch

Dual beam contact construction for high reliability

Multi-purpose center (MPC) for keying and guidance

End-to-end stackable with 5 row 3M™ MetPak™ CP2, HM and HSHM Products  
Mates

## **Typical properties**

Tech Sheet Number: TS-2067

eClass 14 Classification Group: 27460201

## **3M™ Ultra-Thin Water Contact Indicator Tape 5559i**

3M ID B10056964

### **Details**

Paper backing is highly absorbent and transports water to show indications  
Acrylic adhesive offers a very high bond strength to most surfaces including low surface energy plastics such as polypropylene and powder coatings  
Total construction is rotary di

## 3M™ Boardmount Socket, 929 Series

3M Product Number 929 Series 3M ID B30000103 UPC 00051111665503

### Details

Available in single and dual row, up to 80 positions  
Excellent for prototypes and custom designs  
Tuning fork contact design delivers consistent contact pressure  
Solder standoffs allow for production wave soldering  
Solder tails help provide secure board

### Typical properties

Application: Board-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin  
Contact Underplating Thickness (Metric): 2.54 µm  
Current Rating: 2.0 A, 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Retention Feature, Low Profile  
Insulation Color: Black  
Insulation Height (Imperial): 0.15 in, 0.325 in  
Insulation Height (Metric): 3.8 mm, 8.26 mm  
Insulation Material: Glass Filled Polyester (PBT) or High Temperature (PCT)  
Insulation Resistance: > 1 x 10<sup>9</sup> Ohm at 500 VDC, > 1x10<sup>9</sup> Ohm at 500 VDC, >1x10<sup>9</sup> Ω @ 500 VDC, >5x10<sup>9</sup> Ω @ 500 VDC  
Insulator Material: Glass Filled Polyester (PCT)  
Latch/Ejector Type: Push-in/Pull-out  
Mating Contact Finish Material: Gold, Matte Tin  
Mating Option: Board to Board  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Number of Contact Rows: 1 , 2  
Number of Contacts: 1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 , 20 , 21 , 22 , 23 , 24 , 25 , 26 , 28 , 29 , 30 , 31 , 32 , 34 , 35 , 36 , 38 , 40 , 44 , 50 , 52 , 54 , 60 , 64 , 68 , 72 , 80  
PCB Mounting Angle: Straight  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Post Contact Finish Material: Matte Tin  
Product Series: 929  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-0815  
Voltage Rating: 1500 Vrms at Sea Level, 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

## 3M™ Pak 50 Boardmount Plug, P50E Series

3M ID B30000124 UPC 00051111744499

### Details

P50E Plug offers straight and right angle through-hole options  
Right angle P50E Plug comes with and without retention clips  
Latch/eject mechanism maintains a secure connection  
Mates to the P25E, P50E, and P50 wiremount socket  
RoHS Compliant. See Regul

### Typical properties

Application: Board-to-board Connecting  
Connector Style: Plug  
Contact Base Material: Copper Alloy  
Contact Termination Area Plating Material: Gold Flash  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Glass Filled Nylon  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$   
Mating Option: None  
Number of Contact Rows: 0 , 2  
Number of Contacts: 20 , 26 , 30 , 34 , 40 , 50 , 52 , 60 , 68 , 80 , 100  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Process Temperature Rating: 260 °C (Wave Solder Compatible)  
Product Series: P50E  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-1144  
eClass 14 Classification Group: 27460201

## 3M™ Pin Strip Header, 961 Series

3M ID B30000139 UPC 00076308790264

### Details

High temperature dielectric  
“No lead” wave and reflow solder compatible  
End stackable feature  
Single and dual row  
Mates with boardmount and wiremount products  
For regulatory information, visit [3M.com/regs](http://3M.com/regs)  
For more information, refer to Data Sheet TS

### Typical properties

Application: Board-to-board Connecting, Wire-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Header, Pin Header  
Contact Base Material: Copper Alloy  
Contact Termination Area Plating Material: Matte Tin  
Contact Termination Area Plating Thickness (Imperial): 40 µin - 118 µin  
Contact Termination Area Plating Thickness (Metric): 1 µm - 3 µm  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin - 100 µin  
Contact Underplating Thickness (Metric): 1.25 µm - 2.5 µm  
Current Rating: 2.0 A, 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Black  
Insulation Height (Imperial): 0.098 in, 0.98 in  
Insulation Height (Metric): 2.5 mm, 24.9 mm  
Insulation Material: High Temperature Thermoplastic, Thermoplastic  
Insulation Resistance:  $>5 \times 10^8 \Omega$  @ 100 VDC  
Latch/Ejector Type: Push-in/Pull-out  
Mating Contact Finish Material: Gold Flash  
Mating Contact Finish Thickness (Imperial): <10 µin  
Mating Contact Finish Thickness (Metric): <0.25 µm  
Mating Option: Board to Board, None  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -25 °C  
Minimum Operating Temperature (Fahrenheit): -25 °F, -13 °F  
Moisture Sensitivity Level: 1 (Per J-STD-020C)  
Number of Contact Rows: 0 , 1 , 2  
Number of Contacts: 3 , 10 , 23 , 36 , 40 , 72 , 80  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Post Contact Finish Material: Tin  
Product Series: 961  
Shroud Style: Unshrouded  
Specifications Met: UL 94V-0



Tech Sheet Number: TS-2659  
eClass 14 Classification Group: 27460201

## **3M™ Through-Board Socket, 956 Series**

3M ID B30000157

### **Details**

- Maximizes use of PC board space
- High temperature dielectric
- No lead reflow solder compatible
- Dual row design, 6-50 pins
- Minimized PC Board stacking heights
- Ultra Low Profile Version
- Mates with pin headers for board stacking applications
- See Regulat

### **Typical properties**

- Application: Board-to-board Connecting
- Tech Sheet Number: TS-2168
- eClass 14 Classification Group: 27460201

## **3M™ Universal Press, 3316**

3M ID 7000057794 UPC 00054007330257

### **Typical properties**

Brands: 3M™

Factory ISO Certification: No ISO Certification information available

For Use With: Press Tools

Tech Sheet Number: FA-0016

eClass 14 Classification Group: 21049090

# 3M™ Electrically Conductive Cushioning Gasket Tape ECG8055H

3M ID B40022875

## Details

XYZ electrical conductivity  
Conformable-Soft  
Provides EMI shielding and grounding  
Good adhesion to many substrates  
Dual sided adhesive

## Typical properties

Adhesive Type: Acrylic  
Application: Cushioning, EMI Shielding, Electrostatic Discharge (ESD), Gap Filling, Grounding  
Material: Conductive Polyurethane Foam  
Product Color: Black  
Product Usage: Bond Line Gaps, Printed Circuit Boards, Sensors  
eClass 14 Classification Group: 27140708

# **3M™ Electrically Conductive Adhesive Transfer Tape 9719, 14 in x 36 yd, 1 Roll/Case**

Part Number 9719 3M ID 7010409749 UPC 00051115530609

## **Details**

Silicone version of Tape 9713

Isotropic XYZ-axis electrical connectivity

Performs well at elevated temperatures for short periods (up to 400 Degree F [204 Degree C])

Improved adhesion on LSE materials versus Tape 9713 (Such as silicone based EMI gasket)

## **Typical properties**

Adhesive Type: Silicone

Application: Grounding

Brands: 3M™

Factory ISO Certification: No ISO Certification information available

Product Usage: Chassis, Printed Circuit Boards

Total Tape Thickness without Liner (Imperial): 4 mil

Total Tape Thickness without Liner (Metric): 0.1 mm

## **Dimensions and Classifications**

Overall Length (Imperial): 36 yd

Overall Length (Metric): 32.918 m

Overall Width (Imperial): 14 in

Overall Width (Metric): 355.6 mm

## 3M™ Inverse DIN 41612 Header, 7064 Series, 7064-60B3TH

3M ID 7010398373 UPC 50054007778092

### Details

High density (64 position)  
Accepts 3435-1 keying plug system  
See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information  
For more information refer to Data Sheet TS0428 (TS-0428)

### Typical properties

Contact Base Material: Copper Alloy  
Contact Rating: 3A  
Contact Resistance: <15 Milliohms  
Factory ISO Certification: No ISO Certification information available  
Flammability: UL 94V-0  
Insulation Material: Glass Filled Polyester (PBT)  
Interface Grid: .100" x .100"  
Interface Style: DIN 41612 Header (Rectangular Plug)  
Material: Glass Filled Polyester (PBT)  
Number of Contact Rows: 2 null  
Number of Contacts: 64 null  
Orientation: Vertical  
Physical Plating Property: 79 microinches (2.00 micrometers) Nickel--QQ-N-290, Class 2  
Polarization: DIN 41612  
Separable: Yes  
Solder Tails: 200 microinches (5.08 micrometers) 60/40 Tin Lead--MIL-P-81728  
Tail Length: 4.0 Millimetre  
Tech Sheet Number: TS-0428  
Temperature Rating: -55 Degree C to 125 Degree C  
Termination Method: Solder Tail  
Termination Style: Printed Circuit Board  
Wiping Area (Plating): 15 microinches (0.38 micrometers) Gold--MIL-G-45204, Type II, Grade C  
Withstanding Voltage: 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

# 3M™ Novec™ Contact Cleaner/Lubricant, 340 g (12 oz), 6 Canisters/Case

3M ID 7100067834 UPC 00051138992651

## Details

- Cleans and lubricates
- Non-flammable
- Excellent plastics compatibility
- Low toxicity
- Non-conductive, non-corrosive
- Contains no HCFCs, HFCs, or nPB
- Low Global Warming Potential

## Typical properties

- Application: Aerosol Cleaning, Fiber Optic Connector Cleaning
- Brands: Novec™
- Cleaning Performance (Fluorinated Oils): Excellent
- Cleaning Performance (Heavy Oils & Greases): Not Recommended
- Cleaning Performance (Hydraulic Fluid): Not Applicable
- Cleaning Performance (Lead-free Flux): Not Recommended
- Cleaning Performance (Light Oils): Very Good
- Cleaning Performance (No-clean Flux): Not Recommended
- Cleaning Performance (Particulate): Excellent
- Cleaning Performance (Rosin-based Flux): Not Recommended
- Cleaning Strength: Light Duty, Medium Duty
- Factory ISO Certification: No ISO Certification information available
- Net Weight (Imperial): 12 oz
- Net Weight (Metric): 340.194 g
- Specifications Met: California VOC (Electrical Cleaner), OTC VOC (Electrical Cleaner), RoHS 2011/65/EU, RoHS/WEEE
- Volume (Imperial): 12 fl oz
- Volume (Metric): 354.882 mL
- eClass 14 Classification Group: 23060490

## **3M™ Jumper Wire Kit - Assortment (923351-I)**

3M ID 7000058033 UPC 00054007747789

### **Typical properties**

Brands: 3M™

Factory ISO Certification: No ISO Certification information available

Interface Style: Rectangular Socket

Tech Sheet Number: FB-0009



## **3M™ LCC Surface Mount Test Clips**

3M ID B00035161 UPC 00054007801269

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: FB-0016

## **3M™ Monosignal 2-Pin PCB**

3M ID B00035460 UPC 00076308096533

### **Details**

.100" [ 2.54 mm ] center spacing  
Supplied as a complete assembly only  
Low profile -.150" from board  
Side-stackable  
Solderable to the PC board  
Molded-in strain relief  
Solderable to the PC board  
RoHS\* compliant version (53) available  
For more inform

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: TS-0871

# **3M™ Twin Axial Cable Assembly for PCI Express x8 Jumper Applications, 8KH3-0734-0250**

3M ID 7010507224 UPC 08887862035980

## **Details**

PCI Express x8 adds flexibility to meet high-speed data transfer demands  
Allows for expanded placement of peripheral components with less concern for heat or reduced performance  
Allows for replacement of PCB traces with high-performance, low-loss twinax

## **Typical properties**

Application: High-speed Data Transmission  
Brands: 3M™  
Characteristic Impedance: 85 ohms  
Connector Style (End A): Edgecard  
Connector Style (End B): Edgecard  
Connector Type (End A): ST  
Connector Type (End B): ST  
Factory ISO Certification: No ISO Certification information available  
Form Factor: PCIe® Card Edge  
Number of Cable Assembly Lanes: x8  
Number of Conductors: 98  
Product Series: 8KH3  
Product Usage: Board-to-board, Mid-board Cables, Riser Cables  
Protocol: PCIe®  
Standard Size: 0.25 m, 0.5 m  
Tech Sheet Number: TS-2569  
Wire Gauge (Imperial): 30 AWG  
eClass 14 Classification Group: 19051003

## **Dimensions and Classifications**

Overall Length (Imperial): 9.84 in  
Overall Length (Metric): 250 mm

# 3M™ Novec™ 1902 Electronic Grade Coating

## Details

Designed for moisture and corrosion protection of printed circuit boards and electronic components

Low surface energy allows lubricating oils, silicones, photoresist solutions, etc. to bead and drain freely from coated surfaces

Helps provide repellency

## Typical properties

Application: Anti-stiction, Chemical Protection, Corrosion Protection, Moisture Protection, Protecting

Application Method: Brush, Dip, Selective Dispense, Spray

Brands: Novec™

Coating Location: Electronic Device Components

Coating Thickness Range (Metric): 0.1 µm - 0.2 µm

Dielectric Constant: 3.2

Dielectric Strength: 2000 V/mil

Dissipation Factor: 0.002

Factory ISO Certification: No ISO Certification information available

Net Weight (Imperial): 0.18 lb, 11 lb

Net Weight (Metric): 5 kg, 81 g

Polymer Type: Fluoroacrylate

Product Series: Novec 1902

Removability: Removable with 3M™ Novec™ Engineered Fluid 7100,

Removable with 3M™ Novec™ Engineered Fluid 72DA, Removable with 3M™ Novec™ Engineered Fluid 73DE

Specifications Met: Directive (EU) 2015/863, RoHS 2011/65/EU

Thermal Cure Time & Temperature: No Need to Cure

UV Detectable: No

Volume (Imperial): 1 gal, 2 fl oz

Volume (Metric): 4.546 L, 59.147 mL

eClass 14 Classification Group: 27400113

# **3M™ Trizact™ Composite Slurry DT-50**

3M Product Number DT-50 3M ID B40055134

## **Details**

Effective lapping and polishing for ultra-hard substrates such as silicon carbide and ceramics  
Improved total thickness variation (TTV), removal rates and surface finish compared to the copper platen process when used with 3M™ Trizact™ Polishing Pads  
Hi

## **Typical properties**

Application: Finishing, Lapping, Polishing, Scratch Removal  
Product Usage: Semiconductor Wafers, Ultra-hard Substrates  
Substrate: Gallium Arsenide, Gallium Nitride, Lithium Tantalate, Sapphire, Silicon Aluminum, Silicon Carbide, Silicon Nitride

# **3M™ Shrunk Delta Ribbon (SDR) Cable Assembly, 1SD14-3120-0CC-xxx, for Power over Camera Link(R) (PoCL) Lite Applications**

3M ID B00035666

## **Details**

Carries power in addition to signal to enable use in Power over Camera Link(R) (PoCL) Lite applications

Connects to PoCL Lite style (14-pin SDR) I/O ports on both PoCL Lite camera and PoCL Lite framegrabber

Both straight and right angle overmolded cable

## **Typical properties**

Number of Positions: 14

Tech Sheet Number: TS-2431

eClass 14 Classification Group: 27060304

## **3M™ Card Connector microSD™, 2900 Series**

3M ID B00036332 UPC 00051111745373

### **Details**

- 1.85 mm low profile height
- Small size of 14.0 mm × 14.2 mm footprint
- Smooth push-push eject mechanism
- Card is retained when mated
- Card polarization
- Will accept a card thickness of 0.8 mm
- Mechanism prevents card from flying out upon ejection
- Card de

### **Typical properties**

- Connector Style: Receptacle
- Current Rating: 0.5 A
- Factory ISO Certification: No ISO Certification information available
- Insertion/Removal Method: Push-in/Push-out
- Maximum Operating Temperature (Celsius): 85 °C
- Maximum Operating Temperature (Fahrenheit): 185 °F
- Minimum Operating Temperature (Celsius): -25 °C
- Minimum Operating Temperature (Fahrenheit): -13 °F
- Mounting Type: Boardmount
- Number of Contact Rows: 1
- Number of Contacts: 8
- Packaged Form: Tape & Reel
- Product Color: Black
- Specifications Met: China RoHS, RoHS 2011/65/EU
- Tech Sheet Number: TS-2197
- Withstanding Voltage: 500 VAC for 1 min
- eClass 14 Classification Group: 27440211

# 3M™ High-Speed Card-Edge Connector, SPD08 Series

3M ID B00036366 UPC 06912504980075

## Details

Card-edge high-speed board-to-board connector  
Supports flexible stacking height (16-40 mm) mezzanine applications using a riser card  
High-density (0.8 mm pitch), two-row design conserves board space and simplifies trace routing  
Robust contact design is

## Typical properties

Card Standard: Dual Edge, PCI Express™  
Connector Style: Receptacle  
Current Rating: 1.2 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Cantilever, Latch  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Maximum Operating Temperature (Celsius): 125 °C  
Maximum Operating Temperature (Fahrenheit): 257 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 20 , 30 , 40 , 50 , 60 , 80 , 100 , 120 , 140 , 160 , 180 , 200  
Packaged Form: Tape & Reel, Tray  
Product Color: Black  
Product Series: SPD08  
Tech Sheet Number: TS-2420  
eClass 14 Classification Group: 27440211



# **3M™ PC104 Plus Embedded System, 5P03 Series, 5P03-2012-DA**

3M ID 7100214008 UPC 00051115593826

## **Details**

3M PC104+ Connectors

Connector for PC104 applications with support for PCI bus

2 mm pitch connectors for high density applications

Available in solder tail

Pin-and-socket connectors; rugged and reliable 120-contact male/female headers

Simple contact

## **Typical properties**

Connector Style: Non-stackthrough

Factory ISO Certification: No ISO Certification information available

Mounting Type: Boardmount

Number of Contact Rows: 4

Number of Contacts: 120

Pitch (Imperial): 0.079 in

Pitch (Metric): 2 mm

Tech Sheet Number: TS-2391

eClass 14 Classification Group: 27460201

## 3M™ MetPak™ 2-FB Power Socket, MP2 Series

3M ID B00036470 UPC 00051111744581

### Details

6.50 Amps per contact  
End-to-end stackable  
Press or heat stake peg (solder tail)  
Futurebus+(R) compatible  
See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information  
For more information, refer to Data Sheet

### Typical properties

Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Current Rating: 1.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Board Lock, Spacer  
Flammability: UL 94V-0  
Insulation Color: Beige  
Insulation Material: High Temperature LCP  
Insulation Resistance: 10<sup>3</sup> MegaOhms  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 3 µin, 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm, 0.076 µm  
Moisture Sensitivity Level: 1 (Per J-STD-020C)  
Mounting Type: Boardmount  
Number of Contact Rows: 4 , 5  
Number of Contacts: 8 , 10  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Packaged Form: Bulk, Tube  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Process Temperature Rating: 260 Degrees C (Profile per J-STD-020C)  
Product Series: MP2  
Solder Tails: See Ordering Information  
Tech Sheet Number: TS-1125  
Temperature Rating: -55 Degree C to +125 Degree C  
Termination Method: Press Fit, Solder  
UnderPlating Material: 50 micro inches [1.27 micro meter] Nickel  
Wiping Area (Plating): See Ordering Information  
Withstanding Voltage: 1,500 VAC for 60 seconds  
eClass 14 Classification Group: 27460201

## 3M™ CP2 Press-Fit Socket, CP2 Series

3M ID B00036500 UPC 00051119905892

### Details

25mm basic system unit

50mm module

Designed according to IEC 61076-4-101 and IEC 60352-5 Standards

2 mm grid spacing allows for high signal density at low cost

“Eye of the Needle” compliant pin press-fit design reduces manufacturing time and cost

Add

### Typical properties

Connector Style: Receptacle

Contact Base Material: Copper Alloy

Contact Resistance:  $\leq 20$  MilliOhms

Current Rating: 1.0 A

Factory ISO Certification: No ISO Certification information available

Flammability: UL 94V-0

Insulation Color: Beige

Insulation Material: High Temperature Thermoplastic (LCP)

Insulation Resistance:  $\geq 10,000$  MegaOhm

Mating Contact Finish Material: Gold

Mating Contact Finish Thickness (Imperial): 10  $\mu$ in, 30  $\mu$ in

Mating Contact Finish Thickness (Metric): 0.76  $\mu$ m, 0.25  $\mu$ m

Mating Force:  $\leq 0.75$ N/PIN

Mating and Un-mating Operations: 50

Mounting Type: Boardmount

Number of Contact Rows: 5

Number of Contacts: 110

PCB Mounting Angle: Right Angle

PCB Mounting Style: Through Hole

Packaged Form: Bulk

Pitch (Imperial): 0.079 in

Pitch (Metric): 2 mm

Product Series: CP2

Tech Sheet Number: TS-2266

Temperature Rating: -55 Degree C to +125 Degree C

Termination Method: Press Fit

Test Voltage: 750 VAC (rms)

Withstanding Voltage: 750 Vrms

eClass 14 Classification Group: 27460201

# **3M™ MetPak™ Shroud, CP2 Series**

3M ID B00036521

## **Details**

For more information refer to Data Sheet TS2041 (TS-2041)

## **Typical properties**

Tech Sheet Number: TS-2041

eClass 14 Classification Group: 27460201

# **3M™ Pak 50 Stacking Compression Connector, 388 Series**

3M ID B00036719

## **Details**

No solder joints, compression stacking connector  
Standardized interface for Intel Modular Interface eXtension (MIX) Bus (module to module and module to baseboard connector)  
Connector heights tailored for Multibus II environment  
130 contacts to fully ac

## **Typical properties**

Tech Sheet Number: TS-0422  
eClass 14 Classification Group: 27460201

## **3M™ Power Clamp Header Right Angle 356 Series**

3M Product Number 356 Series 3M ID B00036746 UPC 04547452958825

### **Details**

Secure and reliable connection for power and signal applications in a right-angle configuration

Designed to meet industry standards for board mount headers

Available in one- and two-port options to suit different application needs

Thru-hole design ensu

### **Typical properties**

Application: Wire-to-board Connecting

Connection Type: Solder

Connector Style: Pin Header

Factory ISO Certification: No ISO Certification information available

Insulation Material: Glass Filled Polyester (PBT)

Mounting Type: Boardmount

Number of Contact Rows: 1 , 2

Number of Contacts: 5 , 10

Pitch (Imperial): 0.12 in

Pitch (Metric): 3 mm

Product Color: Black

Specifications Met: China RoHS, RoHS 2011/65/EU

Tech Sheet Number: TS-2303

Termination Method: Solder

eClass 14 Classification Group: 27460202

## 3M™ Mini Delta Ribbon (MDR), 102XX-22X0XE, 102 Series

3M ID B00037034 UPC 04548623160610

### Details

Wiper-on-wiper contact for reliable repetitive plugging

Interface latch design for connection stability

IEEE 1284C Interface as a 36 contact connector

Contacts: 20, 26 and 36

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemi

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating

Connector Style: Receptacle

Contact Base Material: Copper Alloy

Contact Underplating Material: Nickel

Contact Underplating Thickness (Imperial): 100 µin, 50 µin

Contact Underplating Thickness (Metric): 1.27 µm, 2.54 µm

Current Rating: 1.0 A

Factory ISO Certification: No ISO Certification information available

Features: PCB Retention

Insulation Material: Glass Reinforced Polyester (PCT)

Markings: 3M Logo and Part Number

Mating Contact Finish Material: Gold

Mating Contact Finish Thickness (Imperial): 20 µin

Mating Contact Finish Thickness (Metric): 0.5 µm

Maximum Operating Temperature (Celsius): 85 °C

Maximum Operating Temperature (Fahrenheit): 185 °F

Minimum Operating Temperature (Celsius): -55 °C

Minimum Operating Temperature (Fahrenheit): -67 °F

Mounting Type: Boardmount

Number of Contact Rows: 2

Number of Contacts: 20 , 26 , 36

PCB Mounting Angle: Straight

PCB Mounting Style: Surface Mount

Pitch (Imperial): 0.05 in

Pitch (Metric): 1.27 mm

Product Usage: Boardmount, Electronic Devices

Shell Material: Steel

Shell Plating: Nickel

Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0

Tech Sheet Number: TS-0638

Termination Method: Solder

eClass 14 Classification Group: 27440307

## 3M™ Mini Delta Ribbon (MDR), 102XX-R2XXS 102 Series

3M ID B00037075 UPC 04519001637000

### Details

Wiper-on-wiper contact for reliable repetitive plugging  
Rugged die cast metal case construction  
Contacts: 14, 20, 26, 36, 40, 50, 68 and 80  
See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information  
For more

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin  
Contact Underplating Thickness (Metric): 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: PCB Retention  
Insulation Material: Glass Filled Polyester (PBT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 14 , 20 , 26 , 36 , 40 , 50 , 68 , 80  
PCB Mounting Angle: Straight  
PCB Mounting Style: Press Fit  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Boardmount, Electronic Devices  
Shell Material: Steel  
Shell Plating: Nickel  
Specifications Met: China RoHS  
Tech Sheet Number: TS-0961  
Termination Method: Press Fit  
eClass 14 Classification Group: 27440307



## **3M™ D Sub Junction Shell**

3M ID B00037105 UPC 00054007363385

### **Details**

Uses standard hardware  
Light weight, compact size  
Full family of sizes  
RoHS compliant  
For more information, refer to Data Sheet TS0037 (TS-0037)

### **Typical properties**

Compatible Cable Shape: Flat, Round  
Compatible Number of Contacts: 9 , 15 , 25 , 37  
Factory ISO Certification: No ISO Certification information available  
For Use With: D Sub Connectors  
Number of Cable Entries: 1  
Product Color: Gray  
Product Type: Junction Shell  
Tech Sheet Number: TS-0037  
eClass 14 Classification Group: 27440213

# 3M™ Novec™ 7100DL Engineered Fluid

## Details

- Non-flammable
- Non-conductive
- Compatible with plastics
- Low toxicity
- Low Global Warming Potential (GWP)
- Zero ozone depletion potential
- VOC-exempt solvent (US EPA)
- Low surface tension penetrates tight spaces for improved cleaning
- High purity

## Typical properties

Application: Deposition Solvent, Lubricant Deposition, Precision Cleaning, Solvent Cleaning, Vapour Degreasing

Boiling Point (Celsius): 61 °C

Boiling Point (Fahrenheit): 142 °F

Brands: Novec™

Cleaning Strength: Light Duty

Density (Imperial): 94.266 lb/ft<sup>3</sup>

Density (Metric): 1.51 g/cm<sup>3</sup>

Dielectric Strength Range: 20 kV - 35 kV

Factory ISO Certification: No ISO Certification information available

Fluorocarbon Solubility: High

GWP (IPCC 2007): 297 (100 yr ITH)

GWP Range: Low

Hydrocarbon Solubility: Medium

Maximum Use Temperature (Celsius): 150 °C

Maximum Use Temperature (Fahrenheit): 302 °F

Net Weight (Imperial): 12 lb, 40 lb, 600 lb

Net Weight (Metric): 5.44 kg, 18.14 kg, 272.15 kg

Plastic Elastomer Compatibility: Excellent

Pour Point (Celsius): -135 °C

Pour Point (Fahrenheit): -211 °F

Product Series: Novec 7100DL

Product Usage: Deposition Solvent

Replacement For: HCFCs, PFCs

Substrate: ABS/Polycarbonate, Acrylic, Silicone, Solvent-resistant Plastic

Volume (Imperial): 1 gal, 3.5 gal, 55 gal

Volume (Metric): 3.79 L, 13.25 L, 208.2 L

eClass 14 Classification Group: 23060490

# **3M™ Metal Shielding Gasket MSG6030F, 300 mm x 13 m, 0.30 mm, 1/Case**

3M ID 7100172088 UPC 00051131121935

## **Details**

Conductive Foam laminated with fabric allows large compression for wide gap range use  
3M conductive acrylic pressure-sensitive adhesive has high adhesion and good XYZ-axis conductivity  
Removable liner for easy handling and die-cutting  
Halogen-free\*

## **Typical properties**

Adhesive Type: Acrylic  
Application: EMI Shielding, Electrostatic Discharge (ESD), Gap Filling, Grounding  
Backing Material: Conductive Fabric  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Material: Polyurethane Plated with Copper/Nickel  
Product Color: Gray  
Product Usage: Bond Line Gaps, Printed Circuit Boards, Sensors  
Total Tape Thickness without Liner (Imperial): 11.8 mil  
Total Tape Thickness without Liner (Metric): 0.3 mm  
eClass 14 Classification Group: 27140708

## **Dimensions and Classifications**

Overall Length (Imperial): 42.65 ft  
Overall Length (Metric): 13 m  
Overall Width (Imperial): 11.81 in  
Overall Width (Metric): 300 mm

# **3M™ Textool™ Open-Top Sockets for QFN Applications, 244-5205-00**

3M ID 7010395461 UPC 00051115602283

## **Details**

- Open-top design
- Accommodates .5 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information refer to Customer Drawing 78-5100-2512-1

## **Typical properties**

- Brands: Textool™
- Factory ISO Certification: No ISO Certification information available
- Tech Sheet Number: TS-2512
- eClass 14 Classification Group: 27261708

## **3M™ Pak 50 Low Profile Plug, P50L Series**

3M ID B5005032001 UPC 00051111740392

### **Details**

Low profile 0.276" (7 mm) from PCB surface  
High temperature insulator compatible with IR and wave soldering  
Optional plug standoffs allow offset of mated board by 1.0 - 4.0 mm  
Retention clips stabilize connector to the board during wave soldering  
RoHS

### **Typical properties**

Application: Board-to-board Connecting  
Connector Style: Plug  
Factory ISO Certification: No ISO Certification information available  
Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 500 VDC  
Mating Option: None  
Number of Contact Rows: 0  
Number of Contacts: 40 , 60  
Process Temperature Rating: 260 °C (Per J-STD-020C)  
Tech Sheet Number: TS-1161  
eClass 14 Classification Group: 27460201

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 248-4205-01

3M ID 7010395443 UPC 00051115601774

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2451-2

## Typical properties

- Brands: Textool™
- Factory ISO Certification: No ISO Certification information available
- Tech Sheet Number: TS-2451
- eClass 14 Classification Group: 27261708

# 3M™ Diamond Lapping Film 663X, Sheets and Rolls

## Details

- Fast cut
- Increased durability
- Flat surface, low rounding
- Uniform finish
- Long abrasive life minimizes abrasive changes
- Available in rolls, discs and sheets

## Typical properties

- Abrasive Material: Diamond
- Backing Thickness (Imperial): 3 mil
- Backing Thickness (Metric): 0.076 mm
- Factory ISO Certification: No ISO Certification information available
- Micron Grade: 30 µm, 45 µm, 60 µm
- Product Form: Roll, Sheet
- Product Series: 663X

## Dimensions and Classifications

- Overall Length (Imperial): 6 in, 11 in, 50 ft, 150 ft
- Overall Length (Metric): 15.24 m, 45.72 m, 152.4 mm, 279.4 mm
- Overall Width (Imperial): 2 in, 4 in, 6 in, 8 in, 9 in
- Overall Width (Metric): 50.8 mm, 101.6 mm, 152.4 mm, 203.2 mm, 228.6 mm

# **3M™ Polishing Film 968M, 5 in x NH PSA Disc, 50/Inner, 500/Case**

3M ID 7000000545 UPC 00051144141210

## **Details**

Durable carrier for compounds or slurries  
Fiber structure can provide unique results  
Soft texture, but ability to cut through work piece substrate  
Keeps compound at interface of work piece

## **Typical properties**

Abrasive Material: Non-abrasive  
Application: Non-abrasive Cleaning, Post Polish Cleaning, Slurry Carrying  
Attachment Type: PSA Back  
Backing Material: Polyester Film  
Backing Thickness (Imperial): 3 mil  
Backing Thickness (Metric): 0.076 mm  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Product Form: Disc  
Product Series: 968M  
Product Usage: Fiber Optic Connectors, Optical  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## **Dimensions and Classifications**

Overall Diameter (Imperial): 5 in  
Overall Diameter (Metric): 127 mm



## **3M™ Power Clamp Terminator, 35T Series**

3M ID B5005037037

### **Details**

Terminal Resistor for electrical signal termination between signal terminals one and two

Mates with Boardmount Headers, Branch Connectors, or Wiremount Plug

CC-Link communication Interconnect Standard

One-touch latching mechanism maintains a reliable i

### **Typical properties**

Application: Network Signal Termination

Tech Sheet Number: TS-2309

eClass 14 Classification Group: 27460202

# 3M™ Polycarbonate Precision Carrier 3000BD

## Details

For wafer level chip scale packages (WLCSP), bare dies and other semiconductor processes requiring cleanliness and high precision  
Cleaned and packaged in a Class 10,000 cleanroom environment  
Precision pockets conform to chips more closely than traditio

## Typical properties

Application: Electronic Component Packaging  
Factory ISO Certification: No ISO Certification information available  
Material: Polycarbonate  
Pocket Hole Pitch (Imperial): 0.079 in, 0.157 in, 0.315 in, 0.472 in  
Pocket Hole Pitch (Metric): 2 mm, 4 mm, 8 mm, 12 mm  
Product Color: Black  
Product Usage: Bare Die, Discrete Components, ICs, LEDs, Passive Components, WLCSP  
Surface Resistance:  $1.0 \times 10^4 \Omega$  -  $1.0 \times 10^8 \Omega$   
eClass 14 Classification Group: 27140708

## Dimensions and Classifications

Overall Length (Imperial): 21.872 yd, 109.361 yd, 328.084 yd, 339.02 yd, 524.934 yd, 546.807 yd, 765.529 yd, 836.614 yd, 1049.869 yd, 1093.613 yd  
Overall Length (Metric): 20 m, 100 m, 300 m, 310 m, 480 m, 500 m, 700 m, 765 m, 960 m, 1000 m  
Overall Width (Imperial): 0.315 in, 0.472 in, 0.63 in  
Overall Width (Metric): 8 mm, 12 mm, 16 mm

# 3M™ Round Shielded/Jacketed Discrete Wire Cable 3647B/36, 300 ft

3M Product Number 3647B Series 3M ID 7100162410 UPC 00051138329075

## Details

Twisted pairs help reduce crosstalk in balanced drive applications  
Tinned copper conductors help deliver reliable signal transmission  
Dual shielding provides 35 dB average shielding effectiveness  
Wires are color coded for easy identification  
UL listed

## Typical properties

Application: Crosstalk Reduction, EMI Interference Protection, High-flexibility Connecting, High-speed Data Transmission, Impedance Control, Noise Immunity, RFI Interference Protection, Signal Balancing  
Brands: 3M™  
Factory ISO Certification: No ISO Certification information available  
Features: Chemical Resistance  
Insulation Color: Multi-color  
Insulation Material: PVC  
Number of Conductors: 36  
Number of Pairs: 18  
Number of Strands: 7  
Product Usage: Amplifiers, Balanced Drive Mechanisms, Box-to-box, Cameras, Computers, Control Modules, IDC Connectors, Robotics Motors, Sensors  
Tech Sheet Number: TS-0582  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27061801

## Dimensions and Classifications

Overall Length (Imperial): 300 ft  
Overall Length (Metric): 91.44 m

# 3M™ Bumpon™ Protective Products SJ5327 Clear, 1000/Case

3M ID 7100002892 UPC 00021200841170

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Cushioning Spacer, Cushioning Stop, Protective Non-Skid Feet, Surface Protection  
Availability: Stocked  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.300 - 0.399 in  
Height-Thickness Range (Metric): 7.0 - 7.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ5327  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.600 - 0.699 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.63 in  
Overall Diameter (Metric): 16 mm  
Overall Height (Imperial): 0.312 in  
Overall Height (Metric): 7.9 mm  
Overall Length (Imperial): 0.63 in  
Overall Length (Metric): 16 mm  
Overall Width (Imperial): 0.312 in  
Overall Width (Metric): 7.9 mm

# 3M™ Bumpon™ Protective Products SJ5744 Black, 2600/Case

3M ID 7000001900 UPC 00021200673283

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Heavier Appliances/Electronic Device Feet - Anti-Skid  
Availability: Stocked  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 4.0 - 4.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ5744  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.700 - 0.799 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.75 in  
Overall Diameter (Metric): 19.05 mm  
Overall Height (Imperial): 0.16 in  
Overall Height (Metric): 4.06 mm

## **3M™ Bumpon™ Protective Products SJ6115 Black, 3000/Case**

3M ID 7000002023 UPC 00021200252853

### **Details**

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

### **Typical properties**

Adhesive Type: Synthetic Rubber (R25)  
Application: Notebook Computer Non-Skid Feet, Small Kitchen Appliance Feet -  
Recessed Application  
Availability: Stocked  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 4.0 - 4.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ6115  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.600 - 0.699 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

### **Dimensions and Classifications**

Overall Diameter (Imperial): 0.625 in  
Overall Diameter (Metric): 15.88 mm  
Overall Height (Imperial): 0.187 in  
Overall Height (Metric): 4.75 mm

# 3M™ Battery Electrolyte HQ-115U

3M ID B5005036148

## Details

Longer battery cycle life, 10% improvement in capacity retention after 300 cycles at 50C

Reduced gas generation for minimize swelling in pouch or prismatic cells

Cell impedance control through formation of effective SEI protective layers

Improved safety

## Typical properties

Product Type: Battery Electrolyte

eClass 14 Classification Group: 27059090

# 3M™ Bumpon™ Protective Products SJ5337 Clear, 5000/Box

3M ID 7000049011 UPC 50048011537318

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Base Width: 0.590 in  
Base Width (Metric): 15.0 mm  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ5337  
Product Type: Bumper  
Shape: Rectangular with Tapered Flat Top  
Width-Diameter Range: 0.500 - 0.599 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.138 in  
Overall Height (Metric): 3.5 mm  
Overall Length (Imperial): 0.236 in  
Overall Length (Metric): 5.99 mm  
Overall Width (Imperial): 0.138 in  
Overall Width (Metric): 3.51 mm



# 3M™ Bumpon™ Protective Products SJ5804 Black R30FL, 9 in x 18 yds, 1/Case

3M ID 7010295824 UPC 00051115528538

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Cushioning Spacer, Cushioning Stop, Gasketing, Notebook  
Computer Non-Skid Feet, Protective Non-Skid Feet, Surface Protection, Surface  
Protection for Sub-Assembly Racks  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Rollstock  
Product Series: SJ5804  
Product Type: Rollstock  
Roll Width (Imperial): 9 in  
Roll Width (Metric): 229 mm  
Shape: Rollstock  
Width-Diameter Range: 9.00 - 9.99 in  
Width-Diameter Range (Metric): 200.0 - 299.0 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Length (Imperial): 18 yd  
Overall Length (Metric): 1645.92 cm  
Overall Thickness (Imperial): 0.25 in  
Overall Thickness (Metric): 6.4 mm  
Overall Width (Imperial): 9 in  
Overall Width (Metric): 22.86 cm

# 3M™ Bumpon™ Protective Products SJ61A4 Black, 5000/Case

3M ID 7100011379 UPC 00051115233388

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.300 - 0.399 in  
Height-Thickness Range (Metric): 7.0 - 7.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ61A4  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.375 in  
Overall Diameter (Metric): 9.5 mm  
Overall Height (Imperial): 0.311 in  
Overall Height (Metric): 7.9 mm  
Overall Length (Imperial): 0.375 in  
Overall Length (Metric): 9.53 mm  
Overall Width (Imperial): 0.311 in  
Overall Width (Metric): 7.9 mm

## 3M™ Pak 50 Socket, P50 Series

3M Product Number P50 Series 3M ID B00038701 UPC 00051111738580

### Details

Features two contact points and straight beam construction for low insertion force  
Horizontal, parallel or vertical mating available  
Insulator design helps minimize mis-insertions and contact damage  
Available with and without flanges for versatility in

### Typical properties

Application: Board-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy, Phosphor Bronze  
Contact Termination Area Plating Material: Gold Flash  
Contact Underplating Material: Nickel  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Mounting Flange  
Insulation Color: Black  
Insulation Height (Imperial): 0.275 in, 0.421 in  
Insulation Height (Metric): 6.99 mm, 10.7 mm  
Insulation Material: Glass Filled Nylon  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$   
Latch/Ejector Type: Latch Holder  
Mating Contact Finish Material: Gold  
Mating Option: Board to Board, Board to Cable, Board to Wire, None  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 20 , 26 , 30 , 34 , 40 , 50 , 60 , 68 , 80 , 100  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Post Contact Finish Material: Gold  
Process Temperature Rating: 260 °C (Wave Solder Compatible)  
Product Series: P50  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-2047  
Voltage Rating: 650 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

## **3M™ D Ribbon Wiremount Socket, Molded Shell, 3000 Series**

3M ID B00038808

### **Details**

- Accepts 26-28 AWG wire
- Accepts .050 inch round, flat or jacketed cable
- Low profile
- Flexible design offers various mounting applications
- Contact design efficiency enables multiple insertion/withdrawals
- Optional bail mount kit available
- RoHS compliant

### **Typical properties**

- Connector Style: Receptacle
- Insulation Material: Glass Filled Polyester (PBT)
- Mounting Type: Wiremount
- Pitch (Imperial): 0.085 in
- Pitch (Metric): 2.16 mm
- Tech Sheet Number: TS-0820
- eClass 14 Classification Group: 27440307

# 3M™ Electrically Conductive Single-Sided Tape 3304BC-S

## Details

Isotropic XYZ-axis conductivity through the adhesive  
Scratch-resistant black copper foil  
High shielding effectiveness  
Excellent conformability and edge conformance  
Excellent EMI/ESD performance and electrical performance over time  
Electrical contact

## Typical properties

Adhesion Strength (Imperial): 1300 gf/in  
Adhesive Type: Acrylic  
Application: EMI Shielding, Electrostatic Discharge (ESD), Passive Intermodulation (PIM) Management  
Backing (Carrier) Material: Copper Foil  
Electrical Resistance: XY-axis 0.05  $\Omega$   
Factory ISO Certification: No ISO Certification information available  
Liner Material: PET  
Maximum Operating Temperature (Celsius): 121 °C  
Maximum Operating Temperature (Fahrenheit): 250 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Product Color: Black  
Product Usage: Camera Modules, Display Chip on Flex, Display Wraps, EMI Shields, Printed Circuit Boards, Sensors  
Shelf Life: 12 Month  
Total Tape Thickness without Liner (Imperial): 1.8 mil  
Total Tape Thickness without Liner (Metric): 0.045 mm

## Dimensions and Classifications

Overall Length (Imperial): 10.936 yd, 32.808 yd, 109.361 yd  
Overall Length (Metric): 10 m, 30 m, 100 m  
Overall Width (Imperial): 0.984 in, 3.937 in, 19.685 in  
Overall Width (Metric): 25 mm, 100 mm, 500 mm

## **3M™ Round, Jacketed, Flat Cable, 3758 Series**

3M Product Number 3758 Series 3M ID B00039390 UPC 50051115303420

### **Details**

Round construction helps make routing more efficient  
26 AWG wire on .050 inch centers permits mass termination to broad range of IDC connectors  
Continuous bond and continuous split/bond allows for mass IDC termination  
Primary cable is zippable for bran

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Halogen Free: No  
Insulation Color: Gray  
Insulation Material: PVC  
Jacket Color: Black  
Jacket Material: PVC  
Number of Conductors: 9 , 10 , 14 , 15 , 16 , 20 , 25 , 26 , 34 , 37 , 40 , 50  
Number of Strands: 7  
Pitch (Imperial): 0.025 in  
Pitch (Metric): 0.64 mm  
Specifications Met: NEC 725 (CL2)  
Tech Sheet Number: TS-2200  
Wire Size: 26 AWG  
eClass 14 Classification Group: 27060106

## **3M™ Medium Flex Life Cable, 3539 Series**

3M Product Number 3539 Series 3M ID B00039646 UPC 00054007367574

### **Details**

Medium flex life cable allows for flexibility and durability in various applications  
Flat cable design helps ensure easy installation and organization  
Provides excellent performance and reliability  
Stranded construction of .050 in. size 28 AWG wire all

### **Typical properties**

Application: High-flexibility Connecting  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Gray  
Insulation Material: PVC  
Number of Conductors: 6 , 9 , 10 , 14 , 16 , 20 , 25 , 26 , 30 , 34 , 37 , 40 , 50 , 60 , 64  
Number of Strands: 19  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Specifications Met: FT1  
Tech Sheet Number: TS-0058  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft, 300 ft  
Overall Length (Metric): 30.48 m, 91.44 m

# 3M™ Wetordry™ Polishing Paper 486Q, Discs

## Details

- Use wet or dry
- Precision micron coated mineral for a uniform, consistent finish
- Shortens hand sanding and buffing time
- Reduces finishing steps and saves time
- Color-coded micron grading for easy selection

## Typical properties

- Abrasive Material: Silicon Carbide
- Application: Finishing, Grinding, Refining, Repairing, Shaping
- Attachment Type: PSA Back
- Factory ISO Certification: No ISO Certification information available
- Micron Grade: 15 µm, 30 µm
- Product Color: Gray, Green
- Product Form: Disc, Disc Roll
- Product Series: 486Q
- Product Usage: CDs/DVDs, Jewelry, PC
- Substrate: ABS, Fiberglass, Metal, PMMA, Plastic, Polyurethane, Precious Metal, Solid Surface Composite

## Dimensions and Classifications

- Overall Diameter (Imperial): 5 in
- Overall Diameter (Metric): 127 mm



## **3M™ High Flex Life Cable, 3250 Series**

3M Product Number 3250 Series 3M ID B5005117063

### **Details**

High flex life cable with 100 million cycles at 1 3/4 in. diameter  
Round conductor for easy installation and termination  
Size 28 AWG wire with size 19x40 AWG stands for durability and strength  
1.0 mm wire spacing allows for mass termination to a variety

### **Typical properties**

Application: High-flexibility Connecting  
Insulation Material: PVC  
Jacket Material: PVC  
Number of Strands: 19  
Pitch (Imperial): 0.039 in  
Pitch (Metric): 1 mm  
Tech Sheet Number: TS-2694  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27060106

# 3M™ Mini Delta Ribbon (MDR) Junction Shell 103XX-3280-000-X

3M ID B00041388 UPC 04901690089817

## Details

Durable two piece plastic over two piece metal junction shell for straight round cable (compatible with 101XX-6000 EC plug)  
Quick release latching  
Contacts: 50, 68 and 80  
RoHS compliant  
For more information refer to Data Sheet TS0534 (TS-0534)

## Typical properties

Compatible Cable Shape: Round  
Compatible Number of Contacts: 50 , 68 , 80  
Connector Style: Plug  
Factory ISO Certification: No ISO Certification information available  
For Use With: MDR Connectors  
Insulation Flammability Rating: UL 94V-0  
Markings: 3M Logo, Part Identification Number  
Material: Steel  
Mounting Type: Wiremount  
Number of Cable Entries: 1  
Number of Contact Rows: 2  
Plating Material: Nickel  
Product Color: Beige  
Product Type: Junction Shell  
Shell Material: ABS  
Tech Sheet Number: TS-0534  
eClass 14 Classification Group: 27440213

## Dimensions and Classifications

Overall Thickness (Imperial): 0.02 in

# **3M™ 100G QSFP28 to 4xSFP28 Direct Attach Copper Cable Assemblies, 9S Series**

3M Product Number 100G QSFP28 to 4xSFP28 3M ID B5005117072

## **Details**

Versatile external DAC solutions for connecting high-speed networking equipment

Delivers aggregate data bandwidth up to 100 Gbps (4 x 25 Gbps)

Maximizes cable management in TOR and other applications

Meets IEEE 802.3bj

Foldable, flexible cable can be

## **Typical properties**

Aggregate Data Rate: 100G

Application: Networking

Characteristic Impedance: 100 ohms

Form Factor: QSFP28, SFP28

Product Series: 9S

Product Usage: Switch

Protocol: Ethernet

Tech Sheet Number: TS-2679

eClass 14 Classification Group: 19051003

## **3M™ Water-Resistant Boot, 378 Series**

3M Product Number 378 Series 3M ID B5005121016

### **Details**

Water-resistant boot provides IP67 protection, shielding against dust and other particulates for 3M™ Mini-Clamp Connectors  
Offers water resistance, with full immersion capability for up to 30 minutes at 1 m depth  
Versatile design fits cable outer diameter

### **Typical properties**

Application: Water Resistance  
Brands: 3M™  
Connector Style: None  
Tech Sheet Number: TS-2700  
eClass 14 Classification Group: 27460202

# 3M™ Lapping Film 865X, Discs

## Details

- High Yield, increased throughput
- Consistent protrusion values
- Low insertion loss and back reflection
- Low defects
- Multiple use product
- Available in discs, sheets or rolls

## Typical properties

- Abrasive Material: Silicon Dioxide
- Attachment Type: Plain Back
- Factory ISO Certification: No ISO Certification information available
- Micron Grade: 2  $\mu\text{m}$
- Product Form: Disc

## Dimensions and Classifications

- Overall Diameter (Imperial): 4.125 in, 5 in
- Overall Diameter (Metric): 104.775 mm, 127 mm

## **3M™ MetPak™ HM Press-Fit Socket, HM Series**

3M ID B10408244

### **Details**

Modular/scalable format IEC 61076-4-101

63 mated lines per linear inch

Dual beam contact construction for high reliability

End-to-end stackable with 5 row 3M™ MetPak™ CP2, HM and HSHM products

Mates with 3M™ MetPak™ HSHM headers

See Regulatory Inform

### **Typical properties**

Tech Sheet Number: TS-2009

eClass 14 Classification Group: 27460201

## **3M™ MetPak™ 2-FB Inverse Header, MP2 Series**

3M ID B10406839

### **Details**

- Elevated connector for offset coplanar/end-to-end stacking
- Ideal for low profile IU boxes
- Ideal for "pizza box" applications
- Ideal for hot swapping applications
- 16 mm to 18.5 mm high profile stacking
- Mates with MP2-SXXXG sockets
- Prevents removing to

### **Typical properties**

- Tech Sheet Number: TS-1124
- eClass 14 Classification Group: 27460201

# **3M™ Industrial M12 Wiremount Connector 3N104-D000-S08 BF, Silver, 50 ea/Case**

3M ID 7100001289 UPC 04548623879109

## **Details**

Compact size; male connector: 45 mm

Solder termination for AWG 20 to 24 wire cable compatibility

IP68 protection

See Regulatory Information Appendix link for chemical compliance information

For more information refer to Customer Drawing 78-5100-2557-6

## **Typical properties**

Brands: 3M™

Connector Style: Plug

Factory ISO Certification: No ISO Certification information available

Keyed: No

Mounting Type: Wiremount

Number of Contacts: 4

Tech Sheet Number: TS-2557

Termination Method: Solder Cup

eClass 14 Classification Group: 22560314



# 3M™ Shrunk Delta Ribbon (SDR) Connector, 122XX-8250-00FR, 122 Series

3M ID B00046109 UPC 04547452340194

## Details

Wiper on wiper contact for reliable repetitive mating  
Full metal face for better EMI shielding effectiveness  
Contacts: 14, 26  
On-board jacksockets maintains a secure connection  
See Regulatory Information Appendix link for chemical compliance informati

## Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: PCB Retention  
Insulation Material: LCP, Nylon, PPS  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Maximum Operating Temperature (Celsius): 70 °C  
Maximum Operating Temperature (Fahrenheit): 158 °C  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 14 , 26  
PCB Mounting Angle: Right Angle, Straight  
PCB Mounting Style: Surface Mount, Through Hole  
Pitch (Imperial): 0.031 in  
Pitch (Metric): 0.8 mm  
Product Usage: Boardmount, Electronic Devices  
Shell Material: Steel  
Shell Plating: Nickel  
Specifications Met: RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-2125  
Termination Method: Solder  
eClass 14 Classification Group: 27440307

## 3M™ Boardmount Socket, 950 Series

3M ID B00046569 UPC 00076308789473

### Details

- Optimizes use of PC board space
- High temperature dielectric
- No lead wave and reflow solder compatible
- Single- and dual row design, 3-40 pins or 4-80 pins
- Mates with pin-strip header products
- See Regulatory Information Appendix (last page of Tech Data)

### Typical properties

- Application: Board-to-board Connecting
- Connector Shape: Rectangular
- Connector Style: Receptacle
- Contact Base Material: Copper Alloy
- Contact Termination Area Plating Material: Matte Tin
- Contact Termination Area Plating Thickness (Imperial): 40 µin - 118 µin
- Contact Termination Area Plating Thickness (Metric): 1 µm - 3 µm
- Contact Underplating Material: Nickel
- Contact Underplating Thickness (Imperial): 100 µin
- Contact Underplating Thickness (Metric): 1.25 µm - 2.5 µm
- Current Rating: 1.0 A
- Factory ISO Certification: No ISO Certification information available
- Insulation Color: Black
- Insulation Height (Imperial): 0.191 in
- Insulation Height (Metric): 4.85 mm
- Insulation Material: High Temperature Thermoplastic, Thermoplastic
- Insulation Resistance:  $>5 \times 10^8 \Omega @ 100 \text{ VDC}$
- Latch/Ejector Type: Push-in/Pull-out
- Mating Contact Finish Material: Gold Flash
- Mating Contact Finish Thickness (Imperial):  $<10 \mu\text{in}$
- Mating Contact Finish Thickness (Metric):  $<0.25 \mu\text{m}$
- Mating Option: Board to Board, None
- Maximum Operating Temperature (Celsius): 105 °C
- Maximum Operating Temperature (Fahrenheit): 221 °F
- Minimum Operating Temperature (Celsius): -40 °C
- Minimum Operating Temperature (Fahrenheit): -40 °F
- Moisture Sensitivity Level: 1 (Per J-STD-020C)
- Number of Contact Rows: 2
- Number of Contacts: 6 , 8 , 14 , 50
- PCB Mounting Angle: Right Angle
- PCB Mounting Style: Through Hole
- Pitch (Imperial): 0.0787402 in
- Post Contact Finish Material: Tin
- Process Temperature Rating: 260 °C Maximum (Per J-STD-020C)
- Product Series: 950
- Specifications Met: UL 94V-0
- Tech Sheet Number: TS-2655

Voltage Rating: 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

## **3M™ Pin Strip Header, 951 Series**

3M ID B00046730

### **Details**

- High temperature dielectric
- No lead reflow solder compatible
- Optimizes use of PC board space
- End stackable feature
- Mates with boardmount products
- See Regulatory Information Appendix for chemical compliance information
- For more information, refer to

### **Typical properties**

- Application: Board-to-board Connecting
- Tech Sheet Number: TS-2159
- eClass 14 Classification Group: 27460201

## **3M™ Serial Attached SCSI (SAS) Connector, SBH Series**

3M ID B00050189

### **Details**

3.0 Gbps input/output connector for HDD

Two contact mating levels for early-mate and late-break allows "blind mating" or "hot swap" applications

Meets SFF-8482 Specification

Meets SAS Specification, SAS-1.1

RoHS compliant

For more information refer t

### **Typical properties**

Tech Sheet Number: TS-2179

eClass 14 Classification Group: 27440307

# 3M™ Textool™ Test & Burn-In Ball Grid Array Sockets 92XX Series

3M ID B10398184 UPC 00076308609931

## Details

Double-beam normally-closed contact delivers balanced, opposing forces to solder ball with minimal shear stress  
Contact tips touch ball above its center plane moving ball deformation away from seating plane  
Designed to allow excellent air flow around de

## Typical properties

Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: TS-9200  
eClass 14 Classification Group: 27261708

## **3M™ Mini Delta Ribbon (MDR) Cable Assembly .050"**

3M ID B10398765

### **Details**

Supports LVDS Channel Link™ signaling  
Ideal for high speed switch backplanes  
20 shielded pairs (100 ohm) +6 grounds for high bandwidth applications  
High density 50 pos. MDR with rugged ribbon type contact  
Thumbscrew shell for positive retention  
For m

### **Typical properties**

Current Rating: 1.0 A  
Jacket Material: PVC  
Number of Positions: 50  
Shell Material: Polyester Elastomer  
Specifications Met: AWM VW-1  
Tech Sheet Number: TS-1002  
eClass 14 Classification Group: 27060304

## 3M™ MetPak™ 2-FB Header MP2 Series

3M ID B10406848 UPC 00051111744697

### Details

Solder Tail  
End-to-end stackable  
Select load capability  
Monoblockable  
Shoulder Pin  
Press Fit  
End-to-end stackable  
Early mate late break for hot swapping (press-fit EMLB adjusted by application tooling)  
Select load capability  
Monoblockable  
Push-o

### Typical properties

Connector Style: Pin Header, Receptacle  
Contact Base Material: Phosphor Bronze  
Current Rating: 1.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Mating Guide  
Flammability: UL 94V-0  
Insulation Color: Beige  
Insulation Material: High Temperature LCP  
Insulation Resistance:  $10^3$  MegaOhms  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 3  $\mu$ in, 30  $\mu$ in  
Mating Contact Finish Thickness (Metric): 0.76  $\mu$ m, 0.076  $\mu$ m  
Moisture Sensitivity Level: 1 (Per J-STD-020C)  
Mounting Type: Boardmount  
Number of Contact Rows: 4 , 5  
Number of Contacts: 24 , 30 , 60 , 150  
PCB Mounting Style: Through Hole  
Packaged Form: Bulk, Tube  
Physical Plating Property: 50 microinches [1.27 micrometers] Nickel  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Process Temperature Rating: 260 Degrees C (Profile per J-STD-020C)  
Product Series: MP2  
Solder Tails: See Ordering Information  
Tech Sheet Number: TS-1120  
Temperature Rating: -55 Degree C to +125 Degree C  
Temperature Rating: USA: -55 Degrees C to +125 Degrees C  
Termination Method: Press Fit, Solder  
UnderPlating Material: 50 micro inches [1.27 micro meter] Nickel  
Wiping Area (Plating): See Ordering Information  
Withstanding Voltage: 1000 VAC



## 3M™ Pak 100 Shunt 929 Series

3M ID B00035015 UPC 00051115606588

### Details

Unique C-Spring contact insures balanced forces  
Compatible with .025" pins  
10 and 30 micro inch gold plating options  
Stackable end-to-end and side-to-side  
Color coded for easy identification  
RoHS compliant  
For more Information refer to Customer Draw

### Typical properties

Contact Base Material: Copper Alloy  
Contact Underplating: 50 μ" [1.27 μm] Nickel  
Contact Wiping Area Plating: 10 μ" [0.25 μm] Gold, 30 μ" [0.76 μm] Gold  
Factory ISO Certification: No ISO Certification information available  
Flammability: UL 94V-0  
Insulation Color: Blue, Gray  
Insulation Flammability Rating: UL 94V-0  
Insulation Material: Glass Filled Polyester (PBT)  
Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 500 VDC  
Interface Style: Rectangular Socket  
Markings: 3M Logo  
Mounting Type: Boardmount  
Non-Operating Temperature: -55 to 100 Degree Celsius  
Number of Positions: 2  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Separable: Yes  
Tech Sheet Number: TS-0200

## **3M™ Textool™ Universal DIP Sockets**

3M ID B00035241 UPC 04901690089404

### **Details**

For DIP's with .100" (2.54 mm) lead spacing  
Extra wide contact zone allows insertion of DIP's with distance between rows  
from .300" (7.62 mm) through .600" (15.24 mm)  
Lever actuated zero insertion force mechanism  
Socket contact point of .090" (2.29 mm)

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Frame Style: ZIP Socket  
Number of Positions: 24 , 28 , 32 , 40 , 42 , 48  
PCB Mounting Style: Through Hole  
Tech Sheet Number: TS-0392  
eClass 14 Classification Group: 27261708

# **3M™ Textool™ Flexible Array Solutions for Test Sockets (FAST)**

3M ID B00035266 UPC 00076308969219

## **Details**

- Accepts multiple cartridge designs
- Lowers impedance of power distribution system
- Reduces noise on power plane
- Reduces radiated emissions

## **Typical properties**

- Factory ISO Certification: No ISO Certification information available
- Frame Style: Flexible Array
- Tech Sheet Number: FA-0023
- eClass 14 Classification Group: 27261708

# 3M™ Twin Axial PCI Express X8 Extender Assemblies

3M ID B00035484 UPC 08887862035973

## Details

PCIe x8 paddlecard and edge mount connector assembly adds reach and flexibility to high-speed, high-bandwidth applications  
Ideal as riser cables for added design flexibility where space is limited  
Meets PCIe®2.0 and PCIe 3.0 standards  
Foldable, flexible

## Typical properties

Application: High-speed Data Transmission  
Characteristic Impedance: 85 ohms  
Connector Style (End A): Edgecard  
Connector Style (End B): Receptacle  
Connector Type (End A): ST  
Connector Type (End B): ST  
Factory ISO Certification: No ISO Certification information available  
Form Factor: PCIe® CEM, PCIe® Card Edge  
Number of Cable Assembly Lanes: x8  
Number of Conductors: 98  
Product Series: 8KH2  
Product Usage: Riser Cables  
Protocol: PCIe®  
Standard Size: 0.25 m, 0.5 m  
Tech Sheet Number: TS-2511  
Wire Gauge (Imperial): 30 AWG  
eClass 14 Classification Group: 19051003

## Dimensions and Classifications

Overall Length (Imperial): 9.84 in, 19.69 in  
Overall Length (Metric): 250 mm, 500 mm

# 3M™ Twin Axial Cable Assembly for PCI Express x16 Jumper Applications

3M ID B00035501 UPC 08887862035966

## Details

PCI Express x16 adds flexibility to meet high-speed data transfer demands  
Allows for expanded placement of peripheral components with less concern for heat or reduced performance  
Allows for replacement of PCB traces with high-performance, low-loss twin

## Typical properties

Application: High-speed Data Transmission  
Characteristic Impedance: 85 ohms  
Connector Style (End A): Edgecard  
Connector Style (End B): Edgecard  
Connector Type (End A): ST  
Connector Type (End B): ST  
Factory ISO Certification: No ISO Certification information available  
Form Factor: PCIe® Card Edge  
Number of Cable Assembly Lanes: x16  
Number of Conductors: 164  
Product Series: 8KC5  
Product Usage: Board-to-board, Mid-board Cables, Riser Cables  
Protocol: PCIe®  
Standard Size: 0.25 m, 0.5 m  
Tech Sheet Number: TS-2586  
Wire Gauge (Imperial): 30 AWG  
eClass 14 Classification Group: 19051003

## Dimensions and Classifications

Overall Length (Imperial): 6.5 in, 9.84 in, 19.69 in  
Overall Length (Metric): 165 mm, 250 mm, 500 mm

# 3M™ Twin Axial Cable Assemblies for QSFP+ Applications 9Q Series

3M ID B00035512 UPC 00076308094010

## Details

High-speed alternative to optical solutions  
Delivers aggregate data bandwidth of 40Gbps (4x10)  
Meets SFF-8436 QSFP+ standard  
Foldable, flexible twinax cable can be bent back on itself for compact designs  
Continuous longitudinal shielding virtually eli

## Typical properties

Aggregate Data Rate: 40G  
Application: Networking  
Characteristic Impedance: 100 ohms  
Connector Style (End A): Plug  
Connector Style (End B): Plug  
Connector Type (End A): ST  
Connector Type (End B): ST  
Factory ISO Certification: No ISO Certification information available  
Form Factor: QSFP+  
Number of Cable Assembly Lanes: x4  
Number of Conductors: 16  
Product Series: 9Q  
Product Usage: Switch  
Protocol: Ethernet  
Standard Size: 3.0 m, 2.0 m, 1.0 m  
Tech Sheet Number: TS-2439  
Wire Gauge (Imperial): 30 AWG  
eClass 14 Classification Group: 19051003

## Dimensions and Classifications

Overall Length (Imperial): 1.64 ft, 9.84 ft, 16.4 ft  
Overall Length (Metric): 0.5 m, 3 m, 5 m

# **3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14B26-SZ3B-XXX-04C Series**

3M ID B00035574

## **Details**

Flexible cable enables moving head applications  
For machine vision camera to frame grabber communications in applications where full CameraLink™ configuration is not necessary  
Mates to popular 3M MDR 26 position receptacle  
3 shielded quads with drains

## **Typical properties**

Current Rating: 1.0 A  
Jacket Material: PVC  
Number of Positions: 26  
Shell Material: Polyester Elastomer  
Specifications Met: AWM VW-1  
Tech Sheet Number: TS-2257  
Voltage Rating: 30.0 V  
eClass 14 Classification Group: 27060304

## **3M™ Jumper Wires**

3M ID B00035012 UPC 00054007747680

### **Typical properties**

Factory ISO Certification: No ISO Certification information available

Interface Style: Rectangular Socket

Mounting Type: Boardmount

Number of Positions: 2

Pitch (Imperial): 0.1 in, 0.2 in, 0.3 in, 0.4 in, 0.5 in, 0.6 in, 0.7 in, 0.8 in, 0.9 in, 1 in, 2 in, 3 in, 4 in, 5 in

Pitch (Metric): 2.54 mm, 5.08 mm, 10.16 mm, 12.7 mm, 17.78 mm, 203.2 mm

Tech Sheet Number: FB-0010



# **3M™ SOIC Surface Mount Test Clips**

3M ID B00035147 UPC 00054007801023

## **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: FB-0018

## **3M™ Textool™ Axial Lead ZIP Strip Sockets**

3M ID B00035262 UPC 04547452858439

### **Details**

For devices with .050" (1.27 mm) lead centers unformed or extending axially from package

Socket without top-plate cover enables horizontal insertion of leads

Frequently used in pairs to handle any nonstandard Flat Pack with leads on .050" (1.27 mm) cent

### **Typical properties**

Factory ISO Certification: No ISO Certification information available

Frame Style: ZIP Socket

Number of Positions: 34 , 35 , 51

PCB Mounting Style: Through Hole

Tech Sheet Number: TS-0364

eClass 14 Classification Group: 27261708

## **3M™ Mini Delta Ribbon (MDR) Cable Assembly**

3M ID B00035659 UPC 00051135219171

### **Details**

Supports LVDS Channel Link™ signaling  
20 shielded pairs (100 ohm) +4 drains for high bandwidth applications  
High density 50 position MDR with rugged ribbon type contact  
3 Unshielded Twisted 28 AWG Pairs  
EMI shielded junction shell in either plastic or

### **Typical properties**

Cable Length (Imperial): 3.281 ft, 6.562 ft, 16.404 ft  
Cable Length (Metric): 1 m, 2 m, 5 m  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Jacket Material: PVC  
Number of Positions: 50  
Shell Material: ABS  
Specifications Met: AWM VW-1  
Tech Sheet Number: TS-2103  
eClass 14 Classification Group: 27060304

# **3M™ Mini Serial Attached SCSI (miniSAS) Cable Assembly, 8N36 Series**

3M ID B00035545

## **Details**

- 3 Gbps per channel data rate
- 36 Conductor signal assembly
- Multiple lengths available
- Metal latch designed to ensure retention
- Two levels of EMLB for hot plugging
- 30 AWG Twin Axial Cable
- Universal key
- Tested to SAS Specification, SAS-1.1
- See Regula

## **Typical properties**

- Product Series: 8N36
- Tech Sheet Number: TS-2209
- eClass 14 Classification Group: 19051003

## **3M™ Pleated Foil I/O Cable Assemblies, MDR Version**

3M ID B00035609 UPC 00076308097004

### **Details**

Mates with standard 3M™ MDR Boardmount Headers  
Pleated copper foil provides a 360 degree shield  
Overmolded Assemblies  
Available in 68, 80 and 100 Positions  
Molded-in strain relief  
Can utilize either #4-40 or M2.5 thumbscrews  
Supplied as a complete a

### **Typical properties**

Cable Length (Imperial): 17 in, 20.4 in, 48 in, 54 in, 132 in  
Cable Length (Metric): 0.432 m, 0.518 m, 1.219 m, 1.372 m, 3.353 m  
Factory ISO Certification: No ISO Certification information available  
Jacket Material: Stainless Steel  
Number of Positions: 68 , 100  
Overmolded Shell Material: Glass-reinforced Polyester (PBT)  
Shell Material: Metal  
Tech Sheet Number: TS-0804  
Voltage Rating: 30.0 V  
eClass 14 Classification Group: 27060304

# 3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14X36-SZ6B-XXX-0HC

3M ID B00035656 UPC 00051135219195

## Details

Supports LVDS Channel Link™ signaling  
10 shielded pairs (100 ohm) +2 drains for high bandwidth applications  
1 USB pair & 4 singles  
High density 36 position MDR with rugged ribbon type contact  
Metal junction shell with Quick Release Latches  
EMI over-m

## Typical properties

Cable Length (Imperial): 3.281 ft, 6.562 ft, 16.404 ft  
Cable Length (Metric): 1 m, 2 m, 5 m  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Jacket Material: PVC  
Number of Positions: 36  
Shell Material: ABS  
Specifications Met: AWM VW-1  
Tech Sheet Number: TS-2102  
eClass 14 Classification Group: 27060304

## 3M™ Connector for CFast™ Card 7G24 Series

3M ID B00036364 UPC 00051111947135

### Details

Headers mate with both CFast™ Type I and Type II cards  
Extended guide rails enable accurate and easy card insertion  
Single row surface mount solder tails facilitate auto placement and IR soldering  
Optional 2 mm board standoff enables board population

### Typical properties

Card Standard: CFast™  
Card Type: Type I/II  
Connector Style: Plug  
Current Rating: 1.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Latch  
Insertion/Removal Method: Push-in/Pull-out, Push-in/Push-out  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 15 µin, 30 µin  
Mating Contact Finish Thickness (Metric): 0.381 µm, 0.76 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 0 , 1  
Packaged Form: Tape & Reel, Tray  
Product Color: Beige  
Product Series: 7G24  
Specifications Met: RoHS 2011/65/EU  
Stack Height (Imperial): 0.224 in  
Stack Height (Metric): 5.68 mm  
Tech Sheet Number: TS-2329  
Withstanding Voltage: 500 VAC for 1 min  
eClass 14 Classification Group: 27440211

# **3M™ Power Connectors for CompactPCI™ Applications, Female, Solder and Press-fit Type**

3M ID B00036409

## **Details**

Designed to meet CompactPCI power interface specification PICMG 2.11 for Zone 1 connector  
Combines power and signal – 20 DC power contacts, 3 AC power contacts and 24 signal contacts  
Eurocard form factors  
Provides redundant power and system management

## **Typical properties**

Tech Sheet Number: TS-2372  
eClass 14 Classification Group: 27460201



## 3M™ CP2 Press-Fit Header, CP2 Series

3M ID B00036517 UPC 00051119905847

### Details

25 mm basic system unit

2 mm grid spacing allows for high signal density at low cost

“Eye of the Needle” compliant pin press-fit design helps reduce manufacturing time and cost

Three contact mating levels for Early Mate Late Break or “Hot Swap” applica

### Typical properties

Connector Style: Pin Header

Current Rating: 1.0 A

Factory ISO Certification: No ISO Certification information available

Insulation Color: Beige

Mating Contact Finish Material: Gold

Mating Contact Finish Thickness (Imperial): 30 µin

Mating Contact Finish Thickness (Metric): 0.76 µm

Mounting Type: Boardmount

Number of Contact Rows: 5 , 7

Number of Contacts: 55 , 77

PCB Mounting Style: Through Hole

Packaged Form: Bulk

Pitch (Imperial): 0.079 in

Pitch (Metric): 2 mm

Product Series: CP2

Tech Sheet Number: TS-2270

Termination Method: Press Fit

Withstanding Voltage: 750 Vrms

eClass 14 Classification Group: 27460201

## 3M™ Chip Carrier Sockets, 8400 Series

3M ID B00036327 UPC 00051111663202

### Details

Accepts chip carriers conforming to JEDEC outline MO-047 for square and MO-052 for rectangular  
High temperature insulator compatible with IR reflow and wave soldering  
Compatible with automated loading equipment  
Open top design allows unrestricted air flow

### Typical properties

Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50.0  $\mu\text{in}$   
Contact Underplating Thickness (Metric): 1.27  $\mu\text{m}$   
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Frame Style: Closed  
Insulation Material: Glass Filled Polyphenylene Sulfide (PPS)  
Integrated Circuit Type: PLCC  
Mating Contact Finish Material: Matte Tin  
Mating Contact Finish Thickness (Imperial): 160  $\mu\text{in}$   
Mating Contact Finish Thickness (Metric): 4.06  $\mu\text{m}$   
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Number of Contact Rows: 4  
Number of Contacts: 20 , 28 , 32 , 44 , 52 , 68 , 84  
PCB Mounting Style: Surface Mount  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Tech Sheet Number: TS-2147  
eClass 14 Classification Group: 27261708

## 3M™ CF Card Header, 7E50 Series, N7E50-X516XX-30

3M ID B00036356 UPC 04547452459438

### Details

Meets CFA standards  
4.0 mm low profile height  
Single row solder tails with 0.635 mm spacing  
Ejector option for easy removal of CF Card  
See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information  
For more inf

### Typical properties

Card Standard: CompactFlash®  
Card Type: Type I  
Connector Style: Plug, Receptacle  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Guide, Board Lock, Card Guide  
Insertion/Removal Method: Push-in/Pull-out  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): <10 µin  
Mating Contact Finish Thickness (Metric): <0.25 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 1  
Number of Contacts: 50  
Packaged Form: Tape & Reel, Tray  
Product Color: Beige  
Product Series: N7E50  
Stack Height (Imperial): 0.157 in, 0.261 in  
Stack Height (Metric): 3.988 mm, 6.629 mm  
Tech Sheet Number: TS-0747  
Withstanding Voltage: 500 VAC for 1 min  
eClass 14 Classification Group: 27440211

# **3M™ Power Connectors for CompactPCI™ Applications, Male**

3M ID B00036408

## **Details**

Designed to meet CompactPCI power interface specification PICMG 2.11 for Zone 1 connector  
Combines power and signal – 20 DC power contacts, 3 AC power contacts and 24 signal contacts  
Eurocard form factors  
Provides redundant power and system management

## **Typical properties**

Tech Sheet Number: TS-2374  
eClass 14 Classification Group: 27460201

## 3M™ MetPak™ 2-FB Inverse Socket, MP2 Series

3M ID B00036459 UPC 00051115589102

### Details

Guiding alignment feature eliminates bent pins on backplane  
Footprint compatible with standard Futurebus+®  
Ideal for hot swapping  
End-to-end stackable  
Vertical socket on backplane  
Offset dual-beam contact minimizes insertion force  
Mates with MP2-P a

### Typical properties

Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Current Rating: 1.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Inverse, Mating Guide  
Flammability: UL 94V-0  
Insulation Color: Beige  
Insulation Material: High Temperature LCP  
Insulation Resistance: 10<sup>3</sup> MegaOhms  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 3 µin, 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm, 0.076 µm  
Mounting Type: Boardmount  
Number of Contact Rows: 5  
Number of Contacts: 30 , 60 , 90 , 210 , 240  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Packaged Form: Bulk, Tube  
Physical Plating Property: 50 microinches [1.27 micrometers] Nickel  
Pitch (Imperial): 0.079 in  
Pitch (Metric): 2 mm  
Product Series: MP2  
Solder Tails: See Ordering Information  
Tech Sheet Number: TS-1121  
Temperature Rating: -55 Degree C to +125 Degree C  
Temperature Rating: USA: -55 Degrees C to +125 Degrees C  
Termination Method: Press Fit, Solder  
UnderPlating Material: 50 micro inches [1.27 micro meter] Nickel  
Wiping Area (Plating): See Ordering Information  
Withstanding Voltage: 1000 VAC  
eClass 14 Classification Group: 27460201

# **3M™ HSHM Press-Fit Power Socket, HSHM Series**

3M ID B00036648

## **Details**

- Up to 5 Gbps data rates
- Low crosstalk at high frequencies
- 50/100 Ohm (single-ended/differential) impedance
- Modular/scalable format IEC 61076-4-101
- 101 mated lines per linear inch
- Mates with 3M HSHM Headers
- Dual beam contact construction for high rel

## **Typical properties**

- Tech Sheet Number: TS-2635
- eClass 14 Classification Group: 27460201

## **3M™ Power Clamp Wiremount Socket, 355 Series**

3M Product Number 355 Series 3M ID B00036745 UPC 04519001583567

### **Details**

Helps provide secure and reliable wire connection for various applications  
Ensures consistent electrical contact and reduces the risk of wire damage or disconnection  
Insulation-displacement connector (IDC) technology allows for easy and efficient wire t

### **Typical properties**

Application: Network Signal Termination, Wire Branching, Wire-to-board Connecting, Wire-to-wire Connecting  
Connection Type: IDC  
Connector Style: Receptacle  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Nylon  
Maximum Conductor Size (Imperial): 18 AWG, 20 AWG  
Maximum Conductor Size (Metric): 0.5 mm<sup>2</sup>, 0.75 mm<sup>2</sup>  
Minimum Conductor Size (Imperial): 18 AWG, 20 AWG  
Minimum Conductor Size (Metric): 0.5 mm<sup>2</sup>, 0.75 mm<sup>2</sup>  
Mounting Type: Wiremount  
Number of Contact Rows: 1  
Number of Contacts: 5  
Pitch (Imperial): 0.12 in  
Pitch (Metric): 3 mm  
Product Color: Black, Blue, Gray, Red, Transparent, Yellow  
Specifications Met: China RoHS, RoHS 2011/65/EU  
Tech Sheet Number: TS-2273  
Termination Method: IDC  
eClass 14 Classification Group: 27460202

## 3M™ Mini Delta Ribbon (MDR) Connectors, 102 Series

3M ID B00037030 UPC 04547452261857

### Details

Wiper-on-wiper contact for reliable repetitive plugging  
Rugged die cast metal case construction  
Screw lock down for reliable PCB retention  
Interface latch design for connection stability  
IEEE 1284C Interface as a 36 contact connector  
Contacts: 14, 20

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin, 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm, 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: PCB Retention  
Insulation Material: Glass Filled Polyester (PBT), Glass Reinforced Polyester (PCT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin, 8 µin  
Mating Contact Finish Thickness (Metric): 0.2 µm, 0.76 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 14 , 20 , 26 , 36 , 40 , 50 , 68 , 80 , 100  
PCB Mounting Angle: Right Angle, Straight  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Boardmount, Electronic Devices  
Shell Material: Steel  
Shell Plating: Nickel  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0427  
Termination Method: Solder  
eClass 14 Classification Group: 27440307



## 3M™ Mini Delta Ribbon (MDR) Connectors, 102 Series

3M ID B00037033 UPC 04547452259885

### Details

Rugged die-cast body resists tipping during automated soldering operations  
Wiper-on-wiper contact for reliable repetitive plugging  
Ultra-low signal skew for high data rate transmission  
Interface latch design for connection stability  
Suitable for thumb

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin  
Contact Underplating Thickness (Metric): 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: PCB Retention  
Insulation Material: Glass Reinforced Polyester (PCT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 20 µin  
Mating Contact Finish Thickness (Metric): 0.5 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 14 , 20 , 26 , 40 , 50  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Surface Mount  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Boardmount, Electronic Devices  
Shell Material: Steel  
Shell Plating: Nickel  
Tech Sheet Number: TS-2242  
Termination Method: Solder  
eClass 14 Classification Group: 27440307

## **3M™ D Sub EMI Junction Shell, Metal**

3M ID B00037104 UPC 00054007371786

### **Details**

Provides EMI/ESD protection similar to aluminium die cast  
Easy assembly reduces time and labor to ensure low applied cost  
Optional thumbscrew kit  
Provides option in grounding for discrete wire applications  
Light weight, compact design  
See Regulatory

### **Typical properties**

Compatible Cable Shape: Round  
Compatible Number of Contacts: 9 , 15 , 25 , 37  
Factory ISO Certification: No ISO Certification information available  
For Use With: D Sub Connectors  
Number of Cable Entries: 1  
Product Color: Silver  
Product Type: Junction Shell  
Tech Sheet Number: TS-0036  
eClass 14 Classification Group: 27440213

## **3M™ Pak 10 Boardmount Plug, PK10M Series**

3M ID B00037660

### **Details**

1 mm pitch connector system

Four mating heights available

Available power contacts rated at 5A

Available frame ground connection through surfacemount retention clips

Keyed design helps prevent mating misalignment

RoHS compliant version (DA plating su

### **Typical properties**

Application: Board-to-board Connecting

Tech Sheet Number: TS-1159

eClass 14 Classification Group: 27460201

## 3M™ Pak 50 I/O Socket, P50 Series

3M Product Number P50 Series 3M ID B00038693 UPC 00051119913743

### Details

Supports 28 or 30 AWG discrete or laminated wire cables  
Versatile socket offers 20 to 100 positions  
Mates to 3M P50 series panel mount plug  
Available with junction shells

### Typical properties

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Feed Through, Strain Relief  
Insulation Color: Black  
Insulation Material: Glass Filled Nylon  
Insulation Resistance:  $>1 \times 10^9 \Omega$  @ 500 VDC  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 10 µin  
Mating Contact Finish Thickness (Metric): 0.25 µm  
Maximum Conductor Size (Imperial): 28 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Conductor Size (Imperial): 30 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 60 , 68  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Series: P50  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-1154  
Termination Method: IDC  
Withstanding Voltage: 650 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

# 3M™ Very Low Outgassing Polyester Seal Tape 6690SP

3M ID B10480754

## Details

Low outgassing acrylic adhesive offers excellent chemical performance and high shear strength

Permanent yet workable level of adhesion to a variety of substrates

Enhanced to virtually eliminate measurable organic acid from the outgassing signature

Cons

## 3M™ Wiremount Socket 79 Series

3M Product Number 79 Series 3M ID B00038597 UPC 04901690088513

### Details

Mates with 3M headers, plugs and pin strips for quick connect/disconnect  
copper alloy contact base provides reliable connections  
Accepts flat or discrete wire cable  
Available in centerbump and military polarization  
Meets UL 94V-0 specifications

### Typical properties

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin  
Contact Underplating Thickness (Metric): 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: Feed Through, Polarizing Key  
Insulation Color: Gray  
Insulation Material: Glass Filled Polyester (PBT)  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$   
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Maximum Conductor Size (Imperial): 26 AWG (Solid & Stranded)  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Conductor Size (Imperial): 28 AWG (Solid & Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 10 , 64  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Product Series: 79  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0094  
Termination Method: IDC  
Withstanding Voltage: 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

## 3M™ Pak 50 Wiremount Socket, P50 Series

3M Product Number P50 Series 3M ID B00038702 UPC 00076308609658

### Details

Terminates two separate 1.27mm (50 mil) pitch flat ribbon cables  
Accepts 28 AWG PVC cable  
Latch/eject mechanism provides reliable connections  
Nickel-plated copper alloy base contacts provide excellent connection  
Includes strain relief

### Typical properties

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Feed Through, Strain Relief  
Insulation Color: Black  
Insulation Material: Glass Filled Nylon  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$   
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial):  $<10 \mu\text{in}$   
Mating Contact Finish Thickness (Metric):  $<0.25 \mu\text{m}$   
Maximum Conductor Size (Imperial): 28 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Conductor Size (Imperial): 28 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 20 , 30 , 50  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Series: P50  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-1163  
Termination Method: IDC  
Withstanding Voltage: 650 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

## **3M™ Round, Jacketed, Flat Cable, 3834 Series**

3M Product Number 3834 Series 3M ID B00039388 UPC 50076308600889

### **Details**

High flex life cable features round construction for easy routing  
28 AWG wire on .050 inch spacing  
Continuous split/bond repeat allows for mass termination on 2.4 inch centers  
(approximate)  
Primary cable is zippable for branching or discrete terminatio

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Halogen Free: No  
Insulation Material: PVC  
Jacket Color: Black  
Jacket Material: PVC  
Number of Conductors: 10 , 16 , 20 , 26  
Number of Strands: 19  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Specifications Met: NEC 725 (CL2)  
Tech Sheet Number: TS-1006  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27060106



## 3M™ Boardmount Socket, 950 Series

3M ID B30000104 UPC 00000000000000

### Details

- Optimizes use of PC board space
- High temperature dielectric
- No lead wave and reflow solder compatible
- Single and dual row design, 2-40 pins or 4-80 pins
- Minimized PC Board stacking heights
- Mates with pin-strip header products
- See Regulatory Informat

### Typical properties

- Application: Board-to-board Connecting
- Contact Base Material: Copper Alloy
- Contact Termination Area Plating Material: Matte Tin
- Contact Termination Area Plating Thickness (Imperial): 40 µin - 118 µin
- Contact Termination Area Plating Thickness (Metric): 1 µm - 3 µm
- Contact Underplating Material: Nickel
- Contact Underplating Thickness (Imperial): 100 µin
- Contact Underplating Thickness (Metric): 1.25 µm - 2.5 µm
- Factory ISO Certification: No ISO Certification information available
- Insulation Material: High Temperature Thermoplastic
- Insulation Resistance:  $>5 \times 10^8 \Omega$  @ 100 VDC
- Moisture Sensitivity Level: 1 (Per J-STD-020C)
- Number of Contact Rows: 1 , 2
- Number of Contacts: 6 , 20
- Process Temperature Rating: 260 °C Maximum (Per J-STD-020C)
- Specifications Met: UL 94V-0
- Tech Sheet Number: TS-2155
- eClass 14 Classification Group: 27460201

## **3M™ Round Conductor Flat Cable, 3770 Series**

3M Product Number 3770 Series 3M ID B00039692 UPC 00051119929232

### **Details**

Round conductor flat cable with .050 in. size 26 AWG stranded wire and TPE insulation for reliable and flexible connection  
Flat cable design enables easy routing and installation in tight spaces  
Conductor construction helps ensure consistent signal tran

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Gray  
Insulation Material: TPE  
Number of Conductors: 9 , 10 , 12 , 14 , 15 , 16 , 20 , 24 , 25 , 26 , 30 , 34 , 37 , 40 , 50 , 60 , 64  
Number of Strands: 7  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Tech Sheet Number: TS-0342  
Wire Size: 26 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft  
Overall Length (Metric): 30.48 m

## **3M™ Jacketed, Flat Cable, .050 in, 3602 Series, 3602/50, 100 ft**

3M ID 7100186866 UPC 50051111618788

### **Details**

Meets external wiring requirements of National Electrical Code, Article 725 (CL2)  
UL listed for US and Canadian Markets  
26AWG Stranded wire on .050 inch centers permits mass termination to board  
line of IDC connectors  
PVC outer jacket prevents damage t

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Tech Sheet Number: TS-1064  
eClass 14 Classification Group: 27060106

## **3M™ Round Conductor Flat Cable, 3754 Series**

3M Product Number 3754 Series 3M ID B00039695 UPC 00051111622100

### **Details**

Round conductor flat cable with close spacing for higher signal density  
Great for high-density applications  
Flexible and easy to install  
Size 30 AWG stranded-wire design for durability  
PVC insulation for added protection  
Space-saving construction  
En

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Gray  
Insulation Material: PVC  
Number of Conductors: 10 , 12 , 14 , 16 , 20 , 26 , 30 , 32 , 34 , 36 , 40 , 50 , 68 ,  
80 , 100  
Number of Strands: 7  
Pitch (Imperial): 0.025 in  
Pitch (Metric): 0.635 mm  
Specifications Met: RoHS 2011/65/EU  
Tech Sheet Number: TS-0875  
Wire Size: 30 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 300 ft  
Overall Length (Metric): 91.44 m

## 3M™ Polarized Boardmount Socket, 6800 Series

3M Product Number 6800 Series 3M ID B30000143 UPC 04547452514144

### Details

Mates with low-profile shrouded headers  
Configurations up to 50 contacts  
Clearly labeled with part number for accurate identification  
Optional keying plug helps maximize connection accuracy  
Straight solder tails help stabilize connector during solder

### Typical properties

Application  
Board-to-board Connecting  
Connector Shape  
Rectangular  
Connector Style  
Receptacle  
Contact Base Material  
Copper Alloy  
Current Rating  
1.0 A  
Factory ISO Certification  
No ISO Certification information available  
Features  
Kinked Pin, Solder, Polarizing Key  
Insulation Color  
Gray  
Insulation Height (Imperial)  
0.283 in  
Insulation Height (Metric)  
7.2 mm  
Insulation Material  
Glass Filled Polyester (PBT)  
Latch/Ejector Type  
Push-in/Pull-out  
Mating Contact Finish Material  
Gold  
Mating Contact Finish Thickness (Imperial)  
>8 µin  
Mating Contact Finish Thickness (Metric)  
>0.2 µm  
Mating Option  
Board to Board, Board to Cable  
Maximum Operating Temperature (Celsius)  
105 °C  
Maximum Operating Temperature (Fahrenheit)  
221 °F  
Minimum Operating Temperature (Celsius)  
-55 °C

Minimum Operating Temperature (Fahrenheit)

-67 °F

Number of Contact Rows

2

Number of Contacts

34 , 40 , 50

PCB Mounting Angle

Straight

PCB Mounting Style

Through Hole

Pitch (Imperial)

0.079 in

Pitch (Metric)

0.1 mm

Post Contact Finish Material

Gold

Product Series

6800

Specifications Met

UL 94V-0

Tech Sheet Number

TS-0689

Voltage Rating

1000 V

eClass 14 Classification Group

27460201

## **3M™ Through-Board Socket, 963 Series**

3M ID B30000158

### **Details**

High temperature dielectric

“No lead” reflow solder compatible

Single row design, 3–30 pins

Mates with pin headers for board stacking applications

Dual entry design allows mating from top side or bottom side through the printed circuit board

See Regu

### **Typical properties**

Application

Board-to-board Connecting

Factory ISO Certification

No ISO Certification information available

Number of Contact Rows

1

Number of Contacts

4 , 5

Tech Sheet Number

TS-2190

eClass 14 Classification Group

27460201

# **3M™ Polyester Film Tape 854 White, 1 in x 72 yds, 2.7 mil, 36/Case, Bulk**

3M ID 7010045066 UPC 00021200057564

## **Details**

Excellent chemical resistance in precious metal plating, especially gold  
Polyester backing helps reduce failure from backing breakdown and shrinkage  
Flexible backing helps reduce failure from cracking  
Synthetic adhesive helps reduce failure from splice

## **Typical properties**

Adhesive Type  
Synthetic Rubber  
Backing (Carrier) Material  
Polyester  
Brands  
3M™  
Factory ISO Certification  
No ISO Certification information available  
Product Color  
White  
Total Tape Thickness without Liner (Imperial)  
2.5591 mil  
Total Tape Thickness without Liner (Metric)  
0.065 mm

## **Dimensions and Classifications**

Overall Length (Imperial)  
72 yd  
Overall Length (Metric)  
66 m  
Overall Width (Imperial)  
1 in  
Overall Width (Metric)  
25.4 mm



# **3M™ Diamond Lapping Film 660XV**

3M ID B40023127

## **Details**

- Precision coated with proprietary 3M methods
- Fast cut
- Increased throughput
- Flatter surface, no rounding
- Uniform finish
- Long abrasive life minimizes abrasive changes
- Available in rolls and sheets

## **Typical properties**

- Product Form
- Disc, Disc Roll

# 3M™ Electrically Conductive Cushioning Gasket Tape ECG8035H

3M ID B10192204

## Details

XYZ electrical conductivity  
Conformable-Soft  
Provides EMI shielding and grounding  
Good adhesion to many substrates  
Dual sided adhesive

## Typical properties

Adhesive Type  
Acrylic  
Application  
Cushioning, EMI Shielding, Electrostatic Discharge (ESD), Gap Filling,  
Grounding  
Material  
Conductive Polyurethane Foam  
Product Color  
Black  
Product Usage  
Bond Line Gaps, Printed Circuit Boards, Sensors  
eClass 14 Classification Group  
27140708

# **3M™ Thermally Conductive Adhesive Transfer Tape 8820, 4 in x 10 yds, Sample**

3M ID 7000048893 UPC 00021200563010

## **Details**

- High mechanical strength
- Improved surface wet-out for rough surface/LSE substrates
- Excellent shock performance
- Wider and longer roll is available
- Halogen free
- Ideal for thin bonding applications
- Good thermal transfer

## **Typical properties**

- Adhesive Type  
Acrylic
- Brands  
3M™
- Factory ISO Certification  
No ISO Certification information available
- Total Tape Thickness without Liner (Imperial)  
20 mil
- Total Tape Thickness without Liner (Metric)  
0.5 mm

## **Dimensions and Classifications**

- Overall Length (Imperial)  
10 yd
- Overall Length (Metric)  
9.14 m
- Overall Width (Imperial)  
4 in
- Overall Width (Metric)  
101.6 mm

# 3M™ Textool™ Test & Burn-In Ball Grid Array Sockets 90XX Series

3M ID B10452877 UPC 00076308972172

## Details

Double-beam normally-closed contact delivers balanced, opposing forces to solder ball with minimal shear stress  
Contact tips touch ball above its center plane moving ball deformation away from seating plane  
Designed to allow excellent air flow around de

## Typical properties

Factory ISO Certification  
No ISO Certification information available  
Frame Style  
BGA Open-top  
Number of Positions  
144 , 176 , 196 , 324 , 337 , 484  
PCB Mounting Style  
Through Hole  
Product Color  
Black  
Tech Sheet Number  
TS-9000  
eClass 14 Classification Group  
27261708

# **3M™ Ionic Liquid Precursor HQ-115IL**

3M ID B10259007

## **Details**

Hydrophobic: Very low solubility in water

Lipophilic: Improved solubility in organic polymers

Electrolytic, thermal, UV and hydrolytic stability

HQ-115IL is an aqueous concentrate for simplified handling and industrial hygiene

HQ-115IL undergoes rapid

## **Typical properties**

eClass 14 Classification Group  
27059090

# 3M™ Shrunk Delta Ribbon (SDR) Connector, 122XX-5150-00FR, 122 Series

3M ID B00043759 UPC 04547452340316

## Details

Wiper on wiper contact for reliable repetitive mating  
Ground lock for reliable PCB retention  
Full metal face for better EMI shielding effectiveness  
Contacts: 14, 26, 50  
On-board jacksockets maintain a secure connection  
See Regulatory Information App

## Typical properties

Application  
Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style  
Receptacle  
Contact Base Material  
Copper Alloy  
Contact Underplating Material  
Nickel  
Contact Underplating Thickness (Imperial)  
50 µin  
Contact Underplating Thickness (Metric)  
1.27 µm  
Current Rating  
0.5 A  
Factory ISO Certification  
No ISO Certification information available  
Features  
PCB Retention  
Insulation Material  
Nylon  
Markings  
3M Logo and Part Number  
Mating Contact Finish Material  
Gold  
Mating Contact Finish Thickness (Imperial)  
30 µin, 8 µin  
Mating Contact Finish Thickness (Metric)  
0.2 µm, 0.76 µm  
Maximum Operating Temperature (Celsius)  
70 °C  
Maximum Operating Temperature (Fahrenheit)  
158 °C  
Minimum Operating Temperature (Celsius)  
-40 °C  
Minimum Operating Temperature (Fahrenheit)

-40 °F  
Mounting Type  
Boardmount  
Number of Contact Rows  
2  
Number of Contacts  
14 , 26 , 50  
PCB Mounting Angle  
Right Angle  
PCB Mounting Style  
Through Hole  
Pitch (Imperial)  
0.031 in  
Pitch (Metric)  
0.8 mm  
Product Usage  
Boardmount, Electronic Devices  
Shell Material  
Steel  
Shell Plating  
Nickel  
Specifications Met  
RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number  
TS-2124  
Termination Method  
Solder  
eClass 14 Classification Group  
27440307

## **3M™ Shielded Controlled Impedance (SCI), Cable Assemblies, 2 mm**

3M ID B00046084 UPC 00076308095642

### **Details**

High density 2.0 mm center spacing  
Mates with CompactPCI®, HSHM, Futurebus® and 3M™ 20 Pin Strip Headers, 1552 Series  
Provides 3.5 GHz performance (contact 3M for additional data)  
Robust metal grounded connector housing provides EMI shield  
Available w

### **Typical properties**

Factory ISO Certification  
No ISO Certification information available  
Tech Sheet Number  
TS-2105



# 3M™ Mini Delta Ribbon (MDR) Connectors, 103 Series

3M ID B00046118 UPC 04901690092992

## Details

Round cable straight exit  
Reliable thumb screw design  
Plastic shroud over metal EMI shield  
Excellent EMI/ESD protection  
Available in beige, black and gray  
Available in 26, 50 and 68 positions  
See Regulatory Information Appendix (last page of Tech Da

## Typical properties

Compatible Cable Shape  
Round  
Compatible Number of Contacts  
20 , 26 , 36 , 50 , 68  
Connector Style  
Plug  
Factory ISO Certification  
No ISO Certification information available  
For Use With  
MDR Connectors  
Mounting Type  
Wiremount  
Number of Cable Entries  
1  
Number of Contact Rows  
2  
Product Color  
Beige, Black  
Product Type  
Junction Shell  
Shell Material  
ABS  
Tech Sheet Number  
TS-0535  
eClass 14 Classification Group  
27440213

## **3M™ Through-Board Socket, 963 Series**

3M ID B00046741

### **Details**

High temperature dielectric

“No lead” reflow solder compatible

Dual row design, 4–60 pins

Mates with pin headers for board stacking applications

Dual entry design allows mating from top side or bottom side through the printed circuit board

See Regula

### **Typical properties**

Application

Board-to-board Connecting

Tech Sheet Number

TS-2191

eClass 14 Classification Group

27460201

# 3M™ Twin Axial PCI Express X16 Extender Assemblies Gen 3.0

3M ID B5005334030 UPC 08887862035287

## Details

8KC3 Series, x16 configuration  
Uses 3M™ Twin Axial Cable technology  
PCIe® 3.0 (85 ohm) applications  
Signal wire size 30 AWG  
Data rates up to 8 Gbps  
Custom cable assembly design is available  
High-bandwidth, resonance-free cable  
Thin ribbon cable con

## Typical properties

Application  
High-speed Data Transmission  
Characteristic Impedance  
85 ohms  
Connector Style (End A)  
Edgecard  
Connector Style (End B)  
Receptacle  
Connector Type (End A)  
ST  
Connector Type (End B)  
ST  
Factory ISO Certification  
No ISO Certification information available  
Form Factor  
PCIe® CEM, PCIe® Card Edge  
Number of Cable Assembly Lanes  
x16  
Number of Conductors  
164  
Product Series  
8KC3  
Product Usage  
Riser Cables  
Protocol  
PCIe®  
Standard Size  
0.25 m, 0.5 m  
Tech Sheet Number  
TS-2520  
Wire Gauge (Imperial)  
30 AWG  
eClass 14 Classification Group  
19051003

## **Dimensions and Classifications**

Overall Length (Imperial)

5.91 in, 9.84 in, 11.81 in

Overall Length (Metric)

150 mm, 250 mm, 300 mm

## 3M™ Mini-Clamp III Plug 37A Series

3M ID B5005367000 UPC 04550309224912

### Details

Easy, quick and reliable IDC Termination  
No need to strip wire insulation; Saves time and helps prevent wire damage  
No special tooling required  
Enables easy field termination  
Compact design saves space  
Compatible with wire from 20-30AWG

### Typical properties

Application  
Wire Branching, Wire-to-board Connecting, Wire-to-wire Connecting  
Connector Style  
Plug  
Factory ISO Certification  
No ISO Certification information available  
Maximum Conductor Size (Metric)  
0.25 mm<sup>2</sup>, 0.5 mm<sup>2</sup>  
Minimum Conductor Size (Metric)  
0.05 mm<sup>2</sup>, 0.12 mm<sup>2</sup>, 0.25 mm<sup>2</sup>  
Mounting Type  
Wiremount  
Number of Contact Rows  
1  
Number of Contacts  
3 , 4  
Pitch (Imperial)  
0.08 in  
Pitch (Metric)  
2 mm  
Product Color  
Gray, Red, White, Yellow  
Tech Sheet Number  
TS-2766  
Termination Method  
IDC  
eClass 14 Classification Group  
27460202

# 3M™ High-Routability miniSAS to SATA Fanout Cable Assemblies, 8S36 Series

3M ID B00050183

## Details

Supports SATA 1.0/2.0/3.0 and SAS 1.0/2.1 applications  
Internal cable construction is thin and lower profile than other similar AWG twin axial cables  
Allows for dense routing and flexible routing options within a chassis  
Foldable - allows for extremely

## Typical properties

Application  
High-speed Data Transmission  
Characteristic Impedance  
100 ohms  
Connector Style (End A)  
Plug  
Connector Style (End B)  
Receptacle  
Connector Type (End A)  
ST  
Connector Type (End B)  
ST  
Form Factor  
MiniSAS, SATA 7p  
Number of Cable Assembly Lanes  
x4  
Number of Conductors  
36  
Product Series  
8S36  
Product Usage  
Backplane/Midplane, Board-to-board, Mid-board Cables  
Protocol  
SAS, SATA  
Tech Sheet Number  
TS-2493  
Wire Gauge (Imperial)  
30 AWG  
eClass 14 Classification Group  
19051003

# 3M™ Thermally Conductive Adhesive Transfer Tape 8810, 4 in x 10 yds, Sample

3M ID 7000050172 UPC 00021200599903

## Details

- High mechanical strength
- Improved surface wet-out for rough surface/LSE substrates
- Excellent shock performance
- Wider and longer roll is available
- Halogen free
- Ideal for thin bonding applications
- Good thermal transfer

## Typical properties

- Adhesive Type
  - Acrylic
- Brands
  - 3M™
- Factory ISO Certification
  - No ISO Certification information available
- Total Tape Thickness without Liner (Imperial)
  - 10 mil
- Total Tape Thickness without Liner (Metric)
  - 0.25 mm

## Dimensions and Classifications

- Overall Length (Imperial)
  - 10 yd
- Overall Length (Metric)
  - 9.14 m
- Overall Width (Imperial)
  - 4 in
- Overall Width (Metric)
  - 101.6 mm

## **3M™ Heat Resistive Polyimide Tape 7416Y**

3M ID B40056163

### **Details**

- High temperature resistance up to 260C x few minutes (multiple reflow cycles)
- Easy removal and no damage to substrate surface
- No residue & no staining
- Die cut converting process friendly
- Clean room manufacturing
- Excellent electrostatic discharge prop



# 3M™ Electrically Conductive Thermosetting Film 2201P, 360 mm x 100 m, 2 Rolls/Case

Part Number 2201P 3M ID 7010296643 UPC 00048011652054

## Details

Thermoset Epoxy / Acrylic Hybrid  
Metallized (Ni/Cu/Ni) Polymeric (PET) Scrim  
Good grounding performance  
Excellent Adhesion to many substrates  
Modest thermal bonding process conditions

## Typical properties

Adhesion Strength (Imperial)  
1420 gf/in  
Adhesive Type  
Epoxy/Acrylic Hybrid Resin  
Application  
Grounding  
Backing (Carrier) Material  
Non-woven  
Brands  
3M™  
Electrical Resistance  
Z-axis 0.2  $\Omega$   
Factory ISO Certification  
No ISO Certification information available  
Liner Material  
PET  
Maximum Operating Temperature (Celsius)  
95 °C  
Maximum Operating Temperature (Fahrenheit)  
203 °F  
Minimum Operating Temperature (Celsius)  
-40 °C  
Minimum Operating Temperature (Fahrenheit)  
-40 °F  
Product Color  
Gray  
Product Usage  
Flexible Printed Circuits, Printed Circuit Boards, Sensors  
Shelf Life  
12 Month  
Total Tape Thickness without Liner (Imperial)  
2.5 mil  
Total Tape Thickness without Liner (Metric)  
0.065 mm

## **Dimensions and Classifications**

Overall Length (Imperial)

109.361 yd

Overall Length (Metric)

100 m

Overall Width (Imperial)

14.173 in

Overall Width (Metric)

360 mm

# 3M™ Camera Link Industrial Camera Cable Assembly, MDR, 1WL26 Series

3M Product Number 1WL26 Series 3M ID B5005510002 UPC 00051119912739

## Details

MDR-to-MDR assembly for Camera Link cable extension  
Features Starlight MDR plug connector on one end and MDR receptacle connector with EMI shielded junction shell on the other  
Excellent for use with 1M x 26-x5xx or 14X26 cables  
Base-medium and full con

## Typical properties

Application  
High-flexibility Connecting, High-speed Connecting, High-speed Data Transmission  
Brands  
3M™  
Cable Length (Imperial)  
6.562 ft, 9.843 ft  
Cable Length (Metric)  
2 m, 3 m  
Cable Outside Diameter (Imperial)  
0.272 in  
Cable Outside Diameter (Metric)  
6.9 mm  
Connector Style (End A)  
Receptacle  
Connector Style (End B)  
Plug  
Connector Type (End A)  
MDR  
Connector Type (End B)  
MDR  
Factory ISO Certification  
No ISO Certification information available  
Product Color  
Gray  
Product Series  
1WL26  
Product Usage  
Cameras, Control Units, Frame Grabbers  
Protocol  
CameraLink  
Tech Sheet Number  
TS-2798

## **3M™ Shielded Controlled Impedance (SCI), Cable Assemblies, .100"**

3M ID B10511603 UPC 00076308971557

### **Details**

- .100 inch (2.54 mm) center spacing
- Mates with standard 3M two-pin headers
- Supplied as a completed assembly Stand-Alone version
- Available in right angle and straight configurations with optional polarization feature
- Right angle connector has optional t

### **Typical properties**

- Factory ISO Certification
- No ISO Certification information available
- Tech Sheet Number
- TS-0803

# 3M™ Novec™ 7200DL Engineered Fluid

## Details

- Non-flammable
- Non-conductive
- Compatible with plastics
- Low toxicity
- Low Global Warming Potential (GWP)
- Zero ozone depletion potential
- VOC-exempt solvent (US EPA)
- Low surface tension penetrates tight spaces for improved cleaning
- High purity for sens

## Typical properties

- Application
  - Aerosol Formulations, Cleaning, Deposition Solvent, Immersion Cleaning, Lubricant Deposition, Precision Cleaning, Rinsing
- Boiling Point (Celsius)
  - 76 °C
- Boiling Point (Fahrenheit)
  - 169 °F
- Brands
  - Novec™
- Cleaning Strength
  - Light Duty
- Density (Imperial)
  - 88.648 lb/ft<sup>3</sup>
- Density (Metric)
  - 1.42 g/cm<sup>3</sup>
- Dielectric Strength Range
  - 20 kV - 35 kV
- Factory ISO Certification
  - No ISO Certification information available
- Fluorocarbon Solubility
  - High
- GWP (IPCC 2007)
  - 59 (100 yr ITH)
- GWP Range
  - Very Low
- Hydrocarbon Solubility
  - Medium
- Maximum Use Temperature (Celsius)
  - 150 °C
- Maximum Use Temperature (Fahrenheit)
  - 302 °F
- Net Weight (Imperial)
  - 12 lb, 40 lb, 500 lb
- Net Weight (Metric)
  - 5.44 kg, 18.14 kg, 227 kg

Plastic Elastomer Compatibility

Excellent

Pour Point (Celsius)

-138 °C

Pour Point (Fahrenheit)

-216 °F

Product Series

Novec 7200DL

Product Usage

Deposition Solvent

Replacement For

CFCs, HFCs, PFCs

Substrate

ABS/Polycarbonate, Acrylic, Silicone, Solvent-resistant Plastic

Volume (Imperial)

1 gal, 3.5 gal, 55 gal

Volume (Metric)

3.79 L, 13.25 L, 208.2 L

eClass 14 Classification Group

23060490

# **3M™ Electrically Conductive Adhesive Transfer Tape 9709SL, 14 in x 108 yd, 1/Case, Bulk**

Part Number 9709SL 3M Product Number 9709SL 3M ID 7000001335

## **Details**

Isotropic XYZ-axis electrical conductivity  
Premium low-force release liner for easy release  
Good resistance to soft metals such as gold  
Good EMI shielding in bond line gap  
Can be applied as die-cut parts or in roll form  
Dual-liner adhesive transfer t

## **Typical properties**

Adhesion Strength (Imperial)

825 gf/in

Adhesive Type

Acrylic

Application

Attaching, Electrostatic Discharge (ESD), Grounding, Interconnecting

Brands

3M™

Electrical Resistance

Z-axis 0.06, XY-axis 40

Factory ISO Certification

No ISO Certification information available

Liner Material

PET

Maximum Operating Temperature (Celsius)

85 °C

Maximum Operating Temperature (Fahrenheit)

185 °F

Minimum Operating Temperature (Celsius)

-40 °C

Minimum Operating Temperature (Fahrenheit)

-40 °F

Product Color

Gold

Product Usage

Bond Line Gaps, Chassis, EMI Gaskets, EMI Shields, Flexible Printed Circuits, Printed Circuit Boards, Sensors

Shelf Life

24 Month

Total Tape Thickness without Liner (Imperial)

2 mil

Total Tape Thickness without Liner (Metric)

0.05 mm

## **Dimensions and Classifications**

Overall Length (Imperial)

108 yd

Overall Length (Metric)

98.755 m

Overall Width (Imperial)

14 in

Overall Width (Metric)

355.6 mm



# 3M™ Metal Shielding Gasket MSG6060F, 385 mm x 10 m x 0.6 mm

3M ID 7100180558 UPC 06912504998407

## Details

Conductive Foam laminated with fabric allows large compression for wide gap range use  
3M conductive acrylic pressure-sensitive adhesive has high adhesion and good XYZ-axis conductivity  
Removable liner for easy handling and die-cutting  
Halogen-free\*

## Typical properties

Adhesive Type  
Acrylic  
Application  
EMI Shielding, Electrostatic Discharge (ESD), Gap Filling, Grounding  
Backing Material  
Conductive Fabric  
Brands  
3M™  
Factory ISO Certification  
No ISO Certification information available  
Material  
Polyurethane Plated with Copper/Nickel  
Product Color  
Gray  
Product Usage  
Bond Line Gaps, Printed Circuit Boards, Sensors  
Total Tape Thickness without Liner (Imperial)  
23.62 mil  
Total Tape Thickness without Liner (Metric)  
0.6 mm  
eClass 14 Classification Group  
27140708

## Dimensions and Classifications

Overall Length (Imperial)  
32.81 ft  
Overall Length (Metric)  
10 m  
Overall Width (Imperial)  
15.16 in  
Overall Width (Metric)  
385 mm

## **3M™ Boardmount Socket, 1502XX-20X0-XX-XX, 1502 Series**

3M ID B30000102 UPC 00076308789015

### **Details**

High Temperature Insulator  
Reflow Solder Compatible  
Low height helps minimize PCB stack height  
End Stackable  
Thru-hole versions are side stackable  
SMT parts are available in tape and reel pack with vacuum cap for automated placement applications  
See

### **Typical properties**

Application  
Board-to-board Connecting, Wire-to-board Connecting  
Connector Shape  
Rectangular  
Connector Style  
Receptacle  
Contact Base Material  
Copper Alloy  
Current Rating  
1.0 A  
Factory ISO Certification  
No ISO Certification information available  
Features  
Board Location Posts  
Insulation Color  
Black  
Insulation Height (Imperial)  
0.177 in  
Insulation Height (Metric)  
4.5 mm  
Insulation Material  
High Temperature Thermoplastic  
Latch/Ejector Type  
Push-in/Pull-out  
Mating Contact Finish Material  
Gold  
Mating Option  
Board to Board, Board to Cable, Board to Wire  
Maximum Operating Temperature (Celsius)  
105 °C  
Maximum Operating Temperature (Fahrenheit)  
221 °F  
Minimum Operating Temperature (Celsius)  
-55 °C  
Minimum Operating Temperature (Fahrenheit)

-67 °F

Number of Contact Rows

2

Number of Contacts

4 , 6 , 8 , 10 , 12 , 14 , 16 , 18 , 20 , 22 , 24 , 26 , 28 , 30 , 32 , 34 , 36 , 38 , 40 ,  
44 , 50 , 52 , 54 , 56 , 60

PCB Mounting Angle

Straight

PCB Mounting Style

Surface Mount, Through Hole

Pitch (Imperial)

0.079 in

Pitch (Metric)

0.079 mm

Post Contact Finish Material

Matte Tin

Product Series

1502

Specifications Met

RoHS 2011/65/EU, UL 94V-0

Tech Sheet Number

TS-0519

Voltage Rating

500 Vrms at Sea Level

eClass 14 Classification Group

27460201

## 3M™ Pak 100 Shunt, 929 Series

3M ID B00046066 UPC 00051138266417

### Details

Double wipe contact is reliable and failure free  
Loop hole on top of the contact provides easy removal for testing  
Color coded body for easy recognition of plating  
Available in strips of twenty for enhanced robotic handling capability  
Open top contact

### Typical properties

Contact Base Material  
Phosphor Bronze  
Contact Underplating  
75 μ" [1.90 μm] Nickel, None  
Contact Wiping Area Plating  
10 μ" [0.25 μm] Gold, 30 μ" [0.76 μm] Gold, None  
Factory ISO Certification  
No ISO Certification information available  
Insulation Color  
Blue, Gray, Red  
Insulation Flammability Rating  
UL 94V-0  
Insulation Material  
Glass Filled Polyester (PBT)  
Insulation Resistance  
>5x10<sup>9</sup> Ω @ 500 VDC  
Interface Style  
Rectangular Socket  
Markings  
3M Logo  
Mounting Type  
Boardmount  
Non-Operating Temperature  
-55 to 100 Degree Celsius  
Number of Positions  
2  
Pitch (Imperial)  
0.1 in  
Pitch (Metric)  
2.54 mm  
Separable  
Yes  
Tech Sheet Number  
TS-0528

## **3M™ Pak 50 I/O Cable Plug, P50 Series**

3M ID B5005032002

### **Details**

Supports 28 or 30 AWG discrete or laminated wire cables  
Fully EMI shielded  
20 to 100 position  
Mates to P50 series cable mount socket  
For more information, refer to Data Sheet TS1155 (TS-1155)

### **Typical properties**

Application  
Wire-to-board Connecting  
Tech Sheet Number  
TS-1155  
eClass 14 Classification Group  
27460201

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 256-4205-01

3M ID 7010395445 UPC 00051115601835

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2458-7

## Typical properties

- Brands
  - Textool™
- Factory ISO Certification
  - No ISO Certification information available
- Tech Sheet Number
  - TS-2458
- eClass 14 Classification Group
  - 27261708

## **3M™ D Sub EMI Junction Shell, 50 Pos**

3M ID B00046119 UPC 00054007617518

### **Details**

Cast aluminum shell provides EMI/ESD protection  
Spring latch allows positive, quick and easy connect and disconnect  
Strain relief compensates for various round cable outside diameters  
Nickel plating provides attractive and corrosion-resistant features

### **Typical properties**

Compatible Cable Shape  
Round  
Compatible Number of Contacts  
50  
Factory ISO Certification  
No ISO Certification information available  
For Use With  
D Sub Connectors  
Number of Cable Entries  
1  
Product Color  
Gray, Silver  
Product Type  
Latch Bracket  
Tech Sheet Number  
TS-0245  
eClass 14 Classification Group  
27440213

# **3M™ Diamond Lapping Film 666XW, 1.0 Micron PSA Sheet, 4.94 in x 2 in, 50/Inner, 500/Case**

3M ID 7000044763 UPC 00051111700358

## **Details**

- PSA-backed
- Fast cut
- Increased durability
- Flat surface, reduced edge rounding
- Uniform finish
- Long abrasive life minimizes abrasive changes
- Available in rolls, discs and sheets

## **Typical properties**

- Abrasive Material
  - Diamond
- Application
  - Flat Lapping, Polishing, Superfinishing
- Attachment Type
  - PSA Back
- Brands
  - 3M™
- Factory ISO Certification
  - No ISO Certification information available
- Micron Grade
  - 1 µm
- Polishing Process
  - Step 2b: Refine/Level Connector (Ceramic Connector)
- Product Form
  - Sheet
- Product Series
  - 666XW
- Product Usage
  - Ceramic Fiber Optic Connectors, Fiber Optic Connectors
- Specifications Met
  - RoHS 2011/65/EU
- Substrate
  - Carbide, Ceramic, Composite, Exotic Alloy, Glass, Stone

## **Dimensions and Classifications**

- Overall Length (Imperial)
  - 2 in
- Overall Length (Metric)
  - 50.8 mm
- Overall Width (Imperial)
  - 4.94 in
- Overall Width (Metric)
  - 125.476 mm



## **3M™ Lapping Film 268X - Custom Sizes**

Part Number 268X 3M ID B5005035303

### **Details**

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

# 3M™ Static Dissipative Heat Activated Cover Tape 2671A

## Details

Suitable for a wide variety of electronic packaging  
Works well on 3M™ Polycarbonate Carrier Tapes with stable peeling performance in aging; can also be used on other carrier materials such as polystyrene  
480 m rolls are available in standard widths of 5

## Typical properties

Adhesive Features

Heat Activated

ESD Material Type

Static Dissipative

Elongation

100 %

Factory ISO Certification

No ISO Certification information available

Haze Percentage

26 %, 35 %

Maximum Sealing Temperature (Celsius)

210 °C, 220 °C

Maximum Sealing Temperature (Fahrenheit)

410 °F, 428 °F

Minimum Sealing Temperature (Celsius)

170 °C

Minimum Sealing Temperature (Fahrenheit)

338 °F

Product Usage

Discrete Components, ICs, LEDs, Passive Components, WLCSP

eClass 14 Classification Group

27140708

## Dimensions and Classifications

Overall Length (Imperial)

524.934 yd

Overall Length (Metric)

480 m

Overall Thickness (Imperial)

0.002 in

Overall Thickness (Metric)

0.048 mm

Overall Width (Imperial)

0.209 in, 0.366 in, 0.374 in

Overall Width (Metric)

5 mm, 5.3 mm, 5.4 mm, 9.3 mm, 9.5 mm

# 3M™ Clear Polycarbonate Carrier 2705

## Details

Used for components requiring static discharge protection  
Static dissipative, splice-free carrier tape is recommended for components requiring static discharge protection (ESD)  
Precisely formed pockets effectively fit passive component per ANSI/EIA guid

## Typical properties

Application  
Electronic Component Packaging  
Factory ISO Certification  
No ISO Certification information available  
Material  
Polycarbonate  
Pocket Hole Pitch (Imperial)  
0.157 in, 0.315 in, 0.472 in  
Pocket Hole Pitch (Metric)  
4 mm, 8 mm, 12 mm  
Product Color  
Transparent  
Product Usage  
Discrete Components, LEDs, Passive Components  
Surface Resistance  
 $1.0 \times 10^8 \Omega$  -  $1.0 \times 10^{11} \Omega$   
eClass 14 Classification Group  
27140708

## Dimensions and Classifications

Overall Length (Imperial)  
21.872 yd, 104.987 yd, 120.297 yd, 360.892 yd, 382.765 yd, 437.445 yd,  
492.126 yd, 546.807 yd, 656.168 yd, 765.529 yd, 874.891 yd, 984.252 yd,  
1082.68 yd, 1093.613 yd, 1312.336 yd, 1673.228 yd  
Overall Length (Metric)  
20 m, 96 m, 110 m, 330 m, 350 m, 400 m, 450 m, 500 m, 600 m, 700 m, 800 m,  
900 m, 990 m, 1000 m, 1200 m, 1530 m  
Overall Width (Imperial)  
0.315 in, 0.472 in, 0.63 in  
Overall Width (Metric)  
8 mm, 12 mm, 16 mm

# 3M™ Boardmount Socket, 950 Series, 950420-7203-AR

3M ID 7000062999

## Details

- Optimizes use of PC board space
- High temperature dielectric
- No lead wave and reflow solder compatible
- Single- and dual row design, 6–50 pins
- Minimized PC Board stacking heights
- Mates with pin-strip header products
- See Regulatory Information Appendix

## Typical properties

- Application
  - Board-to-board Connecting
- Contact Base Material
  - Copper Alloy
- Contact Termination Area Plating Material
  - Matte Tin
- Contact Termination Area Plating Thickness (Imperial)
  - 40 µin - 118 µin
- Contact Termination Area Plating Thickness (Metric)
  - 1 µm - 3 µm
- Contact Underplating Material
  - Nickel
- Contact Underplating Thickness (Imperial)
  - 100 µin
- Contact Underplating Thickness (Metric)
  - 1.25 µm - 2.5 µm
- Factory ISO Certification
  - No ISO Certification information available
- Insulation Material
  - High Temperature Thermoplastic
- Insulation Resistance
  - $>5 \times 10^8 \Omega @ 100 \text{ VDC}$
- Moisture Sensitivity Level
  - 1 (Per J-STD-020C)
- Number of Contacts
  - 20
- Process Temperature Rating
  - 260 °C Maximum (Per J-STD-020C)
- Specifications Met
  - UL 94V-0
- Tech Sheet Number
  - TS-2163
- eClass 14 Classification Group
  - 27460201

# 3M™ Bumpon™ Protective Products SJ5201 Light Brown, 3000 per case

3M ID 7000052134 UPC 00021200425837

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Synthetic Rubber (R25)  
Application  
Inside Door Frame Stops  
Availability  
Stocked  
Backing Material  
Polyurethane Foam  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
29 Shore M  
Height-Thickness Range  
0.100 - 0.199 in  
Height-Thickness Range (Metric)  
3.0 - 3.9 mm  
Pack Size  
3000/case  
Primary Liner  
Translucent Polyester Film  
Product Color  
Light Brown  
Product Form  
Rollstock - Die Cut  
Product Series  
SJ5201  
Product Type  
Bumper  
Shape  
Hexagonal-Die Cut  
Width-Diameter Range  
0.400 - 0.499 in  
Width-Diameter Range (Metric)  
10.0 - 19.9 mm

eClass 14 Classification Group  
23330803

### **Dimensions and Classifications**

Overall Height (Imperial)

0.125 in

Overall Height (Metric)

3.2 mm

Overall Length (Imperial)

0.433 in

Overall Length (Metric)

11 mm

Overall Width (Imperial)

0.433 in

Overall Width (Metric)

11 mm

# 3M™ Bumpon™ Protective Products SJ6125 Black, 3000/Case

3M ID 7000052035 UPC 00021200263095

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Synthetic Rubber (R25)  
Application  
Small Kitchen Appliance Feet - Recessed Application  
Availability  
Stocked  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.200 - 0.299 in  
Height-Thickness Range (Metric)  
6.0 - 6.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black  
Product Form  
Molded  
Product Series  
SJ6125  
Product Type  
Bumper  
Shape  
Circular-Hemisphere  
Width-Diameter Range  
0.600 - 0.699 in  
Width-Diameter Range (Metric)  
10.0 - 19.9 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Diameter (Imperial)

0.625 in

Overall Diameter (Metric)

15.88 mm

Overall Height (Imperial)

0.25 in

Overall Height (Metric)

6.35 mm



## **3M™ Pin Strip Header, 929 Series**

3M ID B30000137

### **Details**

36 sizes (1 to 36) position

Standard .025 inch square posts

.100 inch spacing between posts

Dual insulation

Board pin retention feature available

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information

### **Typical properties**

Application

Board-to-board Connecting

Tech Sheet Number

TS-0817

eClass 14 Classification Group

27460201

# 3M™ Battery Electrolyte HQ-115W

3M ID B5005036149

## Details

Longer battery cycle life, 10% improvement in capacity retention after 300 cycles at 50C

Reduced gas generation for minimize swelling in pouch or prismatic cells

Cell impedance control through formation of effective SEI protective layers

Improved safety

## Typical properties

Product Type

Battery Electrolyte

eClass 14 Classification Group

27059090

## 3M™ Ejector for CFast™ Card, 7G24 Series

3M ID B5005035469 UPC 00051111960073

### Details

Mounts onto "3M™ Connector for CFast™ Card"  
Modular 'Snap on' design allows a shorter assembly time to the connector  
Use with connector for normal card polarization  
Meets the requirement of 10000 durability cycle as per CFA Standard  
See Regulatory Inf

### Typical properties

Card Standard  
CFast™  
Card Type  
Type I/II  
Connector Style  
Receptacle  
Factory ISO Certification  
No ISO Certification information available  
Insertion/Removal Method  
Push-in/Push-out  
Mounting Type  
Boardmount  
Packaged Form  
Tray  
Product Color  
Black  
Product Series  
7G24  
Tech Sheet Number  
TS-2330  
eClass 14 Classification Group  
27440211

## **3M™ Trizact™ Polishing Pad HT-250**

3M Product Number HT-250 3M ID B5005036184

### **Details**

Effective lapping and polishing for ultra-hard substrates such as silicon carbide and ceramics

Reduced total thickness variation (TTV), improved removal rate and better surface finish compared to the copper platen process when used with 3M™ Trizact™ Comp

### **Typical properties**

Application

Finishing, Lapping, Polishing, Scratch Removal

Product Usage

Semiconductor Wafers, Ultra-hard Substrates

Substrate

Gallium Arsenide, Gallium Nitride, Lithium Tantalate, Sapphire, Silicon Aluminum, Silicon Carbide, Silicon Nitride

# **3M™ Thermally Conductive Acrylic Interface Pad 5500H**

3M ID B40007295

## **Details**

High thermal conductivity

Good softness and conformability even to non-flat IC surfaces and heat spreading blocks

Good flame retardant, UL 94 V-0 equivalent material

## **Typical properties**

Application

Electrical Insulation, Heat Dissipation, Heat Spreading, Heat Transfer, Thermal Management

Product Usage

Battery Cooling Plates, Busbar, Displays, EV Batteries, Electronic Control Units, Inverters, Junction Boxes, LED Lighting Systems

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 260-5204-01

3M ID 7010348030 UPC 00051115602375

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2474-4

## Typical properties

- Brands
  - Textool™
- Factory ISO Certification
  - No ISO Certification information available
- Tech Sheet Number
  - TS-2474
- eClass 14 Classification Group
  - 27261708

# **3M™ Bumpon™ Protective Products SJ5398**

3M ID B5005035202

## **Details**

- All 3M™ Bumpon™ Protective Products feature a urethane composition
- Easy application with 3M pressure sensitive adhesives
- High skid-resistance
- Won't scratch or stain surfaces
- Reduces vibration and noise
- Will not crack or harden

## **Typical properties**

- eClass 14 Classification Group  
23330803

# 3M™ Bumpon™ Protective Products SJ6102 White, 3000/Case

3M ID 7100024741 UPC 00021200970016

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Synthetic Rubber (R25)  
Application  
Custom  
Availability  
Make to Order  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.001 - 0.099 in  
Height-Thickness Range (Metric)  
2.0 - 2.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
White  
Product Form  
Molded  
Product Series  
SJ6102  
Product Type  
Bumper  
Shape  
Circular-Hemisphere  
Width-Diameter Range  
0.300 - 0.399 in  
Width-Diameter Range (Metric)  
1.0 - 9.9 mm  
eClass 14 Classification Group  
23330803



## **Dimensions and Classifications**

Overall Diameter (Imperial)

0.312 in

Overall Diameter (Metric)

7.9 mm

Overall Height (Imperial)

0.085 in

Overall Height (Metric)

2.2 mm

Overall Length (Imperial)

0.312 in

Overall Length (Metric)

7.9 mm

Overall Width (Imperial)

0.085 in

Overall Width (Metric)

2.2 mm

# 3M™ Bumpon™ Protective Products SJ61A6 Black, 10,000/Case

3M ID 7010334512 UPC 00051115258114

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Synthetic Rubber (R25)  
Application  
Custom  
Availability  
Make to Order  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.200 - 0.299 in  
Height-Thickness Range (Metric)  
5.0 - 5.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black  
Product Form  
Molded  
Product Series  
SJ61A6  
Product Type  
Bumper  
Shape  
Cylindrical with Flat Top  
Width-Diameter Range  
0.300 - 0.399 in  
Width-Diameter Range (Metric)  
1.0 - 9.9 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Diameter (Imperial)

0.312 in

Overall Diameter (Metric)

7.9 mm

Overall Height (Imperial)

0.215 in

Overall Height (Metric)

5.5 mm

Overall Length (Imperial)

0.312 in

Overall Length (Metric)

7.92 mm

Overall Width (Imperial)

0.25 in

Overall Width (Metric)

6.35 mm

## **3M™ Cable Accessory, 3535 Series, 3535-0000,**

3M ID 7010348473 UPC 00054007366553

### **Details**

Drain Wire Spring Clips are used to attach a drain wire to the shield of a round cable. The drain wire can then be routed to a metal cabinet or through the connector body to the inside of the cabinet  
One size spring clip fits all sizes of cable; 9-64 con

### **Typical properties**

Brands  
3M™  
Factory ISO Certification  
No ISO Certification information available  
Tech Sheet Number  
TS-0269

### **Dimensions and Classifications**

Overall Length (Imperial)  
4.5 in  
Overall Length (Metric)  
114.3 mm  
Overall Thickness (Imperial)  
0.0025 in

## **3M™ Circuit Plating Tape 1280**

3M ID B10098326

### **Details**

Low stretch polyester film for machine, as well as hand application  
Solvent clean up of the board is recommended to facilitate subsequent soldering  
Polyester backing reduces stretch and recovery of tape and associated uneven  
stop-off line  
Thick adhesiv

# 3M™ Pin Strip Header, 951 Series, 951415-9012206-AR

3M ID 7000062996

## Details

High temperature dielectric  
“No lead” wave and reflow solder compatible  
Optimizes use of PC board space  
End stackable feature  
Side stackable feature  
See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance informatio

## Typical properties

Application  
Board-to-board Connecting  
Contact Base Material  
Copper Alloy  
Contact Termination Area Plating Material  
Matte Tin  
Contact Termination Area Plating Thickness (Imperial)  
40 µin - 118 µin  
Contact Termination Area Plating Thickness (Metric)  
1 µm - 3 µm  
Contact Underplating Material  
Nickel  
Contact Underplating Thickness (Imperial)  
100 µin  
Contact Underplating Thickness (Metric)  
1.25 µm - 2.5 µm  
Factory ISO Certification  
No ISO Certification information available  
Insulation Material  
High Temperature Thermoplastic  
Insulation Resistance  
>5x10<sup>8</sup> Ω @ 100 VDC  
Moisture Sensitivity Level  
1 (Per J-STD-020C)  
Process Temperature Rating  
260 °C Maximum (Per J-STD-020C)  
Specifications Met  
UL 94V-0  
Tech Sheet Number  
TS-2160  
eClass 14 Classification Group  
27460201

# 3M™ Electrically Conductive Cushioning Gasket Tape ECG7033H

3M ID B5005035074

## Details

XYZ electrical conductivity  
Conformable-Soft single sided  
Provides EMI shielding and grounding  
Good adhesion to many substrates  
Single sided adhesive

## Typical properties

Adhesive Type  
Acrylic  
Application  
Cushioning, EMI Shielding, Electrostatic Discharge (ESD), Gap Filling,  
Grounding  
Material  
Conductive Polyurethane Foam  
Product Color  
Gray  
Product Usage  
Bond Line Gaps, Printed Circuit Boards, Sensors  
eClass 14 Classification Group  
27140708

## **3M™ Surface Protection Tape 3K10C**

3M ID B5005036067

### **Details**

PE tape with very low tack adhesive system  
Adhesion on SUS is 65gf/inch width  
Protects many polished metals, plastic and glass materials



# 3M™ Textool™ Open-Top Sockets for QFN Applications, 280-5205-01

3M ID 7010395467 UPC 00051115602436

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2476-9

## Typical properties

- Brands
  - Textool™
- Factory ISO Certification
  - No ISO Certification information available
- Tech Sheet Number
  - TS-2476
- eClass 14 Classification Group
  - 27261708

## **3M™ Cable Accessory, Cable Clamp, 3484 Series**

3M ID B5005028010 UPC 00054007302698

### **Details**

Cable Clamp organizes cable routing by clamping and retaining up to six layers of flat cable

RoHS compliant

For more Information refer to Data Sheet TS0260 (TS-0260)

### **Typical properties**

Factory ISO Certification

No ISO Certification information available

For Use With

Cables

Material

Plastic

Product Color

Gray

Product Type

Cable Clamp

Tech Sheet Number

TS-0260

eClass 14 Classification Group

27440292

### **Dimensions and Classifications**

Overall Height (Imperial)

0.25 in, 1 in

Overall Height (Metric)

6.4 mm

Overall Length (Imperial)

1 in

Overall Length (Metric)

25.4 mm

Overall Width (Imperial)

0.25 in, 1 in

Overall Width (Metric)

6.35 mm, 25.4 mm

# 3M™ Twin Axial Cable, SL8801/12 Series, 4 Pair, 4 Sidebands on Side

3M ID B5005035042 UPC 00076308609771

## Details

Flat, foldable

High Bandwidth

Mass processing and termination

SFF 8087 64 position

See Regulatory Information Appendix link for chemical compliance information

For more information refer to Customer Drawing 78-5100-2463-7

## Typical properties

Conductor Material

Copper

Factory ISO Certification

No ISO Certification information available

Impedance

95  $\Omega$

Insulation Color

Silver

Insulation Material

Polyolefin

Number of Conductors

8

Number of Pairs

4

Pitch (Imperial)

0.093 in

Pitch (Metric)

2.37 mm

Product Series

SL8801

Tech Sheet Number

TS-2463

Wire Size

30 AWG

eClass 14 Classification Group

19051003

## **3M™ Diamond Lapping Film 661XU - Custom Sizes**

Part Number 661XU 3M ID B5005035273

### **Details**

- Precision coated
- Fast cut, increased throughput
- Flat surface, no rounding
- Good finish
- Available in discs, rolls and sheets

## **3M™ Lapping Film 254X, Discs**

3M ID B5005035300

### **Details**

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

# 3M™ Polycarbonate Carrier 3000

## Details

Features a typical surface resistivity of  $10^5$  ohms/sq., ideal for static-sensitive components

Splice-free polycarbonate carrier provides balanced electrostatic shielding and electrostatic decay properties

Precisely formed pockets effectively fit passiv

## Typical properties

Application

Electronic Component Packaging

Factory ISO Certification

No ISO Certification information available

Material

Polycarbonate

Pocket Hole Pitch (Imperial)

0.079 in, 0.157 in, 0.315 in, 0.472 in, 0.63 in

Pocket Hole Pitch (Metric)

2 mm, 4 mm, 8 mm, 12 mm, 16 mm

Product Color

Black

Product Usage

Bare Die, Discrete Components, ICs, LEDs, Passive Components, WLCSP

Surface Resistance

$1.0 \times 10^4 \Omega$  -  $1.0 \times 10^8 \Omega$

eClass 14 Classification Group

27140708

## Dimensions and Classifications

Overall Length (Imperial)

21.872 yd, 34.996 yd, 55.774 yd, 68.898 yd, 71.085 yd, 92.957 yd, 109.361 yd, 118.11 yd, 120.297 yd, 123.578 yd, 164.042 yd, 191.382 yd, 200.131 yd, 218.723 yd, 223.097 yd, 227.472 yd, 246.063 yd, 267.935 yd, 273.403 yd, 328.084 yd, 339.02 yd, 349.956 yd, 366.36 yd, 382.765 yd, 437.445 yd, 492.126 yd, 524.934 yd, 541.339 yd, 546.807 yd, 601.487 yd, 656.168 yd, 765.529 yd, 820.21 yd, 874.891 yd, 984.252 yd, 1049.869 yd, 1072.835 yd, 1077.209 yd, 1082.68 yd, 1090.332 yd, 1093.613 yd, 1142.826 yd, 1206.255 yd, 1269.685 yd, 1312.336 yd, 1325.459 yd, 1330.927 yd, 1585.739 yd

Overall Length (Metric)

20 m, 32 m, 51 m, 63 m, 65 m, 85 m, 100 m, 108 m, 110 m, 113 m, 150 m, 175 m, 183 m, 200 m, 204 m, 208 m, 225 m, 245 m, 250 m, 300 m, 310 m, 320 m, 335 m, 350 m, 400 m, 450 m, 480 m, 495 m, 500 m, 550 m, 600 m, 700 m, 750 m, 800 m, 900 m, 960 m, 981 m, 985 m, 990 m, 997 m, 1000 m, 1045 m, 1103 m, 1161 m, 1200 m, 1212 m, 1217 m, 1450 m

Overall Width (Imperial)

0.315 in, 0.472 in, 0.63 in, 0.945 in

Overall Width (Metric)

8 mm, 12 mm, 16 mm, 24 mm, 32 mm, 44 mm

# **3M™ Ultra-Thin Water Contact Indicator Tape 5559**

3M ID B10056963

## **Details**

Paper backing is highly absorbent and transports water to show indications  
Acrylic adhesive allows for a very high bond strength to most surfaces including  
low surface energy plastics such as polypropylene and powder coatings  
Total construction is rotar



# **3M™ Textool™ Discrete Power In-Line Sockets 203-2737-55-1102, Black, 10 ea/Case**

3M ID 7000007717 UPC 04519001371850

## **Details**

Accepts a wide variety of in-line devices up to 3 leads including TO-3 and TO-66  
Kelvin contacts  
Repairable - body and contacts replaceable  
Slotted out 2 entry ports accept devices with .075" (1.90 mm) to .200" (5.1 mm)  
between leads  
Must be mounted t

## **Typical properties**

Brands  
Textool™  
Factory ISO Certification  
No ISO Certification information available  
Frame Style  
Open  
Number of Contact Rows  
3  
Number of Contacts  
3  
Pitch (Imperial)  
0.2339 in  
Pitch (Metric)  
5.94 mm  
Tech Sheet Number  
TS-0458  
eClass 14 Classification Group  
27261708

# 3M™ Electrically Conductive Double-Sided Tape 9723, 500 mm x 100 m

Part Number 9723 3M ID 7000008577 UPC 00051115524899

## Details

Lower R non-woven conductive scrim versus 9713  
Isotropic XYZ-axis electrical connectivity  
Thinner scrim design  
High adhesion acrylic adhesive  
Can be applied in strips or die cut to specific shapes & sizes

## Typical properties

Adhesion Strength (Imperial)  
1100 gf/in  
Adhesive Type  
Acrylic  
Application  
Electrostatic Discharge (ESD), Grounding, Interconnecting  
Backing (Carrier) Material  
Non-woven  
Brands  
3M™  
Electrical Resistance  
Z-axis 0.001  $\Omega$   
Factory ISO Certification  
No ISO Certification information available  
Liner Material  
PET  
Maximum Operating Temperature (Celsius)  
121 °C  
Maximum Operating Temperature (Fahrenheit)  
250 °F  
Minimum Operating Temperature (Celsius)  
-40 °C  
Minimum Operating Temperature (Fahrenheit)  
-40 °F  
Product Color  
Gray  
Product Usage  
Bond Line Gaps, Chassis, Flexible Printed Circuits  
Shelf Life  
24 Month  
Total Tape Thickness without Liner (Imperial)  
2.4 mil  
Total Tape Thickness without Liner (Metric)  
0.061 mm

## Dimensions and Classifications

Overall Length (Imperial)

109.361 yd

Overall Length (Metric)

100 m

Overall Width (Imperial)

19.685 in

Overall Width (Metric)

500 mm

# 3M™ Board Stacking Connector System, P05N Series, P05N-060ST-B-G

3M ID 7000043849

## Details

0.5 mm pitch connector system ideal for applications with limited space  
Mated heights of 4, 5, & 6 mm  
Bellows type contact reduces mating stress and insures reliability  
Tactile click action assures complete mating and assures high resistance to vibrati

## Typical properties

Application  
Board-to-board Connecting  
Contact Base Material  
Copper Alloy  
Contact Termination Area Plating Material  
Gold Flash  
Contact Underplating Material  
Nickel  
Contact Underplating Thickness (Imperial)  
50 µin  
Contact Underplating Thickness (Metric)  
1.27 µm  
Factory ISO Certification  
No ISO Certification information available  
Insulation Resistance  
>1x10<sup>3</sup> MΩ @ 500 VDC  
Number of Contacts  
60  
Pitch (Imperial)  
0.02 in  
Pitch (Metric)  
0.5 mm  
Specifications Met  
UL 94V-0  
Tech Sheet Number  
TS-1092  
eClass 14 Classification Group  
27460201

## 3M™ Pin Strip Header, 951 Series

3M ID B30000138 UPC 00076308789602

### Details

High temperature dielectric  
No lead wave and reflow solder compatible  
Optimizes use of PC board space  
End stackable feature  
Mates with boardmount and wiremount products  
For regulatory information, visit [3M.com/regs](http://3M.com/regs)  
For more information, refer to Tec

### Typical properties

Application  
Board-to-board Connecting, Wire-to-board Connecting  
Connector Shape  
Rectangular  
Connector Style  
Header  
Contact Base Material  
Copper Alloy, Tin  
Contact Termination Area Plating Material  
Matte Tin  
Contact Termination Area Plating Thickness (Imperial)  
40 µin - 118 µin  
Contact Termination Area Plating Thickness (Metric)  
1 µm - 3 µm  
Contact Underplating Material  
Nickel  
Contact Underplating Thickness (Imperial)  
100 µin  
Contact Underplating Thickness (Metric)  
1.25 µm - 2.5 µm  
Current Rating  
1.0 A  
Factory ISO Certification  
No ISO Certification information available  
Insulation Color  
Black  
Insulation Height (Imperial)  
0.06 in, 0.079 in, 0.157 in  
Insulation Height (Metric)  
1.52 mm, 2 mm, 4 mm  
Insulation Material  
High Temperature Thermoplastic, Thermoplastic  
Insulation Resistance  
>5x10<sup>8</sup> Ω @ 100 VDC  
Latch/Ejector Type  
Push-in/Pull-out

Mating Contact Finish Material  
Gold Flash  
Mating Contact Finish Thickness (Imperial)  
<10 µin  
Mating Contact Finish Thickness (Metric)  
<0.25 µm  
Mating Option  
Board to Board, None  
Maximum Operating Temperature (Celsius)  
105 °C  
Maximum Operating Temperature (Fahrenheit)  
221 °F  
Minimum Operating Temperature (Celsius)  
-25 °C  
Minimum Operating Temperature (Fahrenheit)  
-25 °F  
Moisture Sensitivity Level  
1 (Per J-STD-020C)  
Number of Contact Rows  
1 , 2  
Number of Contacts  
2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 12 , 14 , 15 , 16 , 18 , 20 , 22 , 24 , 26 , 30 , 32 , 34  
, 36 , 40 , 44 , 50 , 60 , 66 , 80  
PCB Mounting Angle  
Right Angle  
PCB Mounting Style  
Through Hole  
Pitch (Imperial)  
0.079 in  
Pitch (Metric)  
2 mm  
Post Contact Finish Material  
Tin  
Process Temperature Rating  
260 °C Maximum (Per J-STD-020C)  
Product Series  
951  
Shroud Style  
Unshrouded  
Specifications Met  
UL 94V-0  
Tech Sheet Number  
TS-2653  
eClass 14 Classification Group  
27460201

## **3M™ Through-Board Socket, 953 Series**

3M ID B30000156

### **Details**

Maximizes use of PC board space  
High temperature dielectric  
“No lead” reflow solder compatible  
Single row design, 4–40 pins  
Minimized PC Board stacking heights  
Mates with pin headers for board stacking applications  
See Regulatory Information Appendi

### **Typical properties**

Application  
Board-to-board Connecting  
Tech Sheet Number  
TS-2166  
eClass 14 Classification Group  
27460201

# 3M™ Novec™ 4710 Insulating Gas

## Details

Fluorinated nitrile designed with a lower global warming potential (GWP) is a sustainable alternative to sulfur hexafluoride (SF<sub>6</sub>)  
Achieve a potential reduction of 99% in green house gas (GHG) when used in gas mixtures in place of SF<sub>6</sub> in on-grid commerci

## Typical properties

Application  
Insulating Gas for Electrical Equipment  
Atmospheric Lifetime  
30 Year  
Boiling Point (Celsius)  
-4.7 °C  
Boiling Point (Fahrenheit)  
24 °F  
Brands  
Novec™  
Dielectric Strength Range  
27.5 kV  
Factory ISO Certification  
No ISO Certification information available  
GWP (IPCC 2007)  
2100 (100 yr ITH)  
Net Weight (Imperial)  
4.4 lb, 50 lb  
Net Weight (Metric)  
2 kg, 22.68 kg  
Ozone Depletion Potential  
0  
Pour Point (Celsius)  
-127 °C  
Pour Point (Fahrenheit)  
-197 °F  
Product Series  
Novec 4710  
Replacement For  
SF<sub>6</sub>  
Volume (Metric)  
2.2 L



# **3M™ Heavy-Duty Assembly Press, 3335**

3M ID B10098568

## **Typical properties**

Tech Sheet Number  
FA-0013  
eClass 14 Classification Group  
21049090

# 3M™ Bumpon™ Quiet Clear Protective Products SJ6503, 5000/Case

3M ID 7000124312 UPC 00051115256882

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Synthetic Rubber (R25)  
Application  
Cushioning Spacer, Inside Door Frame Stops  
Availability  
Stocked  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
56 Shore M  
Height-Thickness Range  
0.200 - 0.299 in  
Height-Thickness Range (Metric)  
5.0 - 5.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Transparent  
Product Form  
Molded  
Product Series  
SJ6503  
Product Type  
Bumper  
Shape  
Circular-Hemisphere  
Width-Diameter Range  
0.400-0.499 in  
Width-Diameter Range (Metric)  
11.00 - 19.99 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Diameter (Imperial)

0.44 in

Overall Diameter (Metric)

11.1 mm

Overall Height (Imperial)

0.2 in

Overall Height (Metric)

5 mm

Overall Length (Imperial)

0.44 in

Overall Length (Metric)

11.2 mm

Overall Width (Imperial)

0.2 in

Overall Width (Metric)

5.1 mm

## **3M™ Shunt, 969 Series, 969102-0000-DA**

3M ID 7000063014

### **Details**

Open and closed type

Optional with handle for easy handling

See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information

For more information, refer to Data Sheet TS2186 (TS-2186)

### **Typical properties**

Contact Base Material

Copper Alloy

Factory ISO Certification

No ISO Certification information available

Flammability

UL 94V-0

Insulation Material

PBT Thermoplastic

Physical Plating Property

1.25 - 2.5 micro meter [100 micro inch] Nickel

Tech Sheet Number

TS-2186

# 3M™ Novec™ 7100 Engineered Fluid

## Details

- Non-flammable
- Non-conductive
- Compatible with plastics
- Low toxicity
- Low global warming potential (GWP)
- Zero ozone depletion potential (ODP)
- VOC-exempt solvent (US EPA)
- Low surface tension penetrates tight spaces for improved cleaning

## Typical properties

- Application
  - Aerosol Formulations, Cleaning, Data Center Cooling, Deposition Solvent, Document Preservation, Electronic Cooling, Heat Transfer, Immersion Cooling for Data Centers, Organic Rankine Cycle, Oxygen System Cleaning, Precision Cleaning, Preservation for Biological Specimens, Rinsing, Solvent Cleaning
- Boiling Point (Celsius)
  - 61 °C
- Boiling Point (Fahrenheit)
  - 142 °F
- Brands
  - Novec™
- Cleaning Strength
  - Light Duty
- Dielectric Strength Range
  - >25 kV
- Factory ISO Certification
  - No ISO Certification information available
- Fluorocarbon Solubility
  - High
- GWP (IPCC 2007)
  - 297 (100 yr ITH)
- GWP Range
  - Low
- Hydrocarbon Solubility
  - Medium
- Maximum Use Temperature (Celsius)
  - 150 °C
- Maximum Use Temperature (Fahrenheit)
  - 302 °F
- Net Weight (Imperial)
  - 12 lb, 33 lb, 600 lb
- Net Weight (Metric)
  - 5.44 kg, 14.97 kg, 272 kg
- Plastic Elastomer Compatibility
  - Excellent
- Pour Point (Celsius)

-135 °C  
Pour Point (Fahrenheit)  
-211 °F  
Product Series  
Novec 7100  
Replacement For  
CFCs, HCFCs, HFCs, PFCs  
Volume (Imperial)  
1 gal, 3.25 gal, 55 gal  
Volume (Metric)  
3.79 L, 12.3 L, 250.035 L

# 3M™ Novec™ 71IPA Engineered Fluid

## Details

Non-flammable  
Non-conductive  
Low toxicity  
Low Global Warming Potential (GWP)  
Zero ozone depletion potential  
Low surface tension penetrates tight spaces for improved cleaning

## Typical properties

Application  
Cleaning, Deposition Solvent, Light Cleaning and Degreasing, Precision  
Cleaning, Rinsing, Solvent Cleaning, Vapour Degreasing  
Boiling Point (Celsius)  
54.8 °C  
Boiling Point (Fahrenheit)  
131 °F  
Brands  
Novec™  
Cleaning Strength  
Light Duty  
Density (Imperial)  
92.393 lb/ft<sup>3</sup>  
Density (Metric)  
1.48 g/cm<sup>3</sup>  
Dielectric Strength Range  
<20 kV  
Factory ISO Certification  
No ISO Certification information available  
Fluorocarbon Solubility  
High  
GWP (IPCC 2007)  
284 (100 yr ITH)  
GWP Range  
Low  
Hydrocarbon Solubility  
Medium  
Maximum Use Temperature (Celsius)  
150 °C  
Maximum Use Temperature (Fahrenheit)  
302 °F  
Net Weight (Imperial)  
11.02 lb, 33 lb, 550 lb  
Net Weight (Metric)  
5 kg, 14.97 kg, 249.48 kg  
Plastic Elastomer Compatibility  
Excellent  
Pour Point (Celsius)

-135 °C

Pour Point (Fahrenheit)

-211 °F

Product Series

Novec 71IPA

Product Usage

Deposition Solvent

Replacement For

CFCs

Substrate

ABS/Polycarbonate, Acrylic, Silicone, Solvent-resistant Plastic

Volume (Imperial)

1 gal, 3.17 gal, 55 gal

Volume (Metric)

3.79 L, 12 L, 208.2 L

eClass 14 Classification Group

23060490



# 3M™ Novec™ 1904 Electronic Grade Coating

## Details

Designed for moisture and corrosion protection of printed circuit boards and electronic components

Low surface energy allows lubricating oils, silicones, photoresist solutions, etc. to bead and drain freely from coated surfaces

Helps provide repellency

## Typical properties

Application

Anti-stiction, Chemical Protection, Corrosion Protection, Moisture Protection, Protecting

Application Method

Dip, Selective Dispense, Spray

Brands

Novec™

Coating Location

Electronic Device Components

Coating Thickness Range (Metric)

0.3 µm - 0.6 µm

Dielectric Constant

3.2

Dielectric Strength

2000 V/mil

Dissipation Factor

0.002

Factory ISO Certification

No ISO Certification information available

Net Weight (Imperial)

0.18 lb, 11 lb

Net Weight (Metric)

5 kg, 81 g

Polymer Type

Fluoroacrylate

Product Series

Novec 1904

Removability

Removable with 3M™ Novec™ Engineered Fluid 7100, Removable with 3M™ Novec™ Engineered Fluid 72DA, Removable with 3M™ Novec™ Engineered Fluid 73DE

Specifications Met

Directive (EU) 2015/863, RoHS 2011/65/EU

Thermal Cure Time & Temperature

No Need to Cure

UV Detectable

No

Volume (Imperial)

0.75 gal, 2 fl oz

Volume (Metric)  
2.84 L, 59.147 mL  
eClass 14 Classification Group  
27400113

# 3M™ Electrically Conductive Single-Sided Tape CEF-3BV, 1240 mm x 50 m, 1 Roll/Case

3M Product Number CEF-3BV 3M ID 7010593165 UPC 06912504267312

## Details

- Good Z-axis conductivity
- High adhesion
- Excellent conformability and quick bonding
- Good handling and workability
- Copper/nickel-plated fabric enables EMI/EMC shielding performance
- Halogen free\*
- RoHS compliant\*\*
- Scratch-resistant foil

## Typical properties

- Adhesion Strength (Imperial)  
1300 gf/in
- Adhesive Type  
Acrylic
- Application  
EMI Shielding, Electrostatic Discharge (ESD)
- Backing (Carrier) Material  
Woven Fabric
- Brands  
3M™
- Electrical Resistance  
XY-axis 0.4  $\Omega$
- Factory ISO Certification  
No ISO Certification information available
- Liner Material  
Paper
- Maximum Operating Temperature (Celsius)  
121 °C
- Maximum Operating Temperature (Fahrenheit)  
250 °F
- Minimum Operating Temperature (Celsius)  
-40 °C
- Minimum Operating Temperature (Fahrenheit)  
-40 °F
- Product Color  
Black
- Product Usage  
Display Chip on Flex, Display Wraps, EMI Shields, Printed Circuit Boards, Sensors
- Shelf Life  
12 Month
- Total Tape Thickness without Liner (Imperial)

2.835 mil  
Total Tape Thickness without Liner (Metric)  
0.072 mm

### **Dimensions and Classifications**

Overall Length (Imperial)  
54.681 yd  
Overall Length (Metric)  
50 m  
Overall Width (Imperial)  
48.819 in  
Overall Width (Metric)  
1240 mm

# 3M™ Lapping Film 265X, Discs

## Details

- PSA-backed
- Tight particle distribution
- Softer resin than other aluminum oxide products
- Consistent cut rate, finish and life
- Available in discs, sheets and rolls

## Typical properties

- Abrasive Material
- Aluminum Oxide
- Attachment Type
- PSA Back
- Factory ISO Certification
- No ISO Certification information available
- Micron Grade
- 1  $\mu\text{m}$
- Product Form
- Disc

## Dimensions and Classifications

- Overall Diameter (Imperial)
- 4 in, 8 in
- Overall Diameter (Metric)
- 101.6 mm, 203.2 mm

# **3M™ Lapping Film 863XW, 0.02 Micron Disc, 5 in x NH, 50/Inner, 500/Case**

3M ID 7000044737 UPC 00051111562383

## **Details**

High Yield, increased throughput  
Consistent protrusion values  
Available in discs, sheets and rolls

## **Typical properties**

Abrasive Material  
Silicon Dioxide  
Attachment Type  
Plain Back  
Brands  
3M™  
Factory ISO Certification  
No ISO Certification information available  
Micron Grade  
0.02 µm  
Product Form  
Disc

## **Dimensions and Classifications**

Overall Diameter (Imperial)  
5 in  
Overall Diameter (Metric)  
127 mm

## 3M™ Bumpon™ Protective Products SJ5023

### Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Good load bearing shape for heavier items  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will

### Typical properties

Adhesive Type  
Natural Rubber (R30)  
Application  
Small Electronic Device Feet, Small Kitchen Appliance Feet  
Availability  
Make to Order, Stocked  
Backing Material  
Polyurethane  
Base Width  
0.812 in  
Base Width (Metric)  
20.6 mm  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.300 - 0.399 in  
Height-Thickness Range (Metric)  
7.0 - 7.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black, Brown, Gray, White  
Product Form  
Molded  
Product Series  
SJ5023  
Product Type  
Bumper  
Shape  
Square-Tapered w/ Flat Top  
Width-Diameter Range  
0.800 - 0.899 in  
Width-Diameter Range (Metric)  
20.0 - 29.9 mm  
eClass 14 Classification Group

23330803

### **Dimensions and Classifications**

Overall Height (Imperial)

0.3 in

Overall Height (Metric)

7.6 mm

Overall Length (Imperial)

0.811 in

Overall Length (Metric)

20.6 mm

Overall Width (Imperial)

0.811 in

Overall Width (Metric)

20.6 mm



# 3M™ Bumpon™ Protective Products SJ5318 Clear, 3000/Case

3M ID 7000051930 UPC 00021200649684

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Acrylic (A20)  
Application  
Heavier Appliances/Electronic Device Feet - Anti-Skid  
Availability  
Stocked  
Backing Material  
Polyurethane  
Base Width  
0.500 in  
Base Width (Metric)  
12.7 mm  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
75 Shore M  
Height-Thickness Range  
0.200 - 0.299 in  
Height-Thickness Range (Metric)  
5.0 - 5.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Transparent  
Product Form  
Molded  
Product Series  
SJ5318  
Product Type  
Bumper  
Shape  
Square-Tapered w/ Flat Top  
Width-Diameter Range  
0.500 - 0.599 in  
Width-Diameter Range (Metric)

10.0 - 19.9 mm  
eClass 14 Classification Group  
23330803

### **Dimensions and Classifications**

Overall Height (Imperial)

0.23 in

Overall Height (Metric)

5.84 mm

Overall Length (Imperial)

0.5 in

Overall Length (Metric)

12.7 mm

Overall Width (Imperial)

0.5 in

Overall Width (Metric)

12.7 mm

# 3M™ Bumpon™ Resilient Rollstock SJ5632 Clear R25FL, 4.5 in x 72 yds, 1/Case

3M ID 7010384203 UPC 00051141417523

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Acrylic, Acrylic (A20)  
Application  
Cushioning Spacer, Cushioning Stop, Gasketing, Protective Non-Skid Feet, Surface Protection  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
73-78 Shore M  
Height-Thickness Range  
0.001 - 0.099 in  
Height-Thickness Range (Metric)  
0.1 - .99 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Transparent  
Product Form  
Rollstock  
Product Series  
SJ5600  
Product Type  
Rollstock  
Roll Width (Imperial)  
4.5 in  
Roll Width (Metric)  
114.3 mm  
Shape  
Rollstock  
Width-Diameter Range

4.00 - 4.99 in  
Width-Diameter Range (Metric)  
100.0 - 199.9 mm  
eClass 14 Classification Group  
23330803

### **Dimensions and Classifications**

Overall Length (Imperial)  
72 yd  
Overall Length (Metric)  
65.83 m, 65.84 m  
Overall Thickness (Imperial)  
0.031 in, 0.032 in  
Overall Thickness (Metric)  
0.8 mm  
Overall Width (Imperial)  
4.5 in  
Overall Width (Metric)  
11.43 cm

# 3M™ Bumpon™ Resilient Rollstock SJ6016

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Acrylic (A20)  
Application  
Cushioning Spacer, Cushioning Stop, Gasketing, Protective Non-Skid Feet, Surface Protection  
Availability  
Make to Order  
Backing Material  
Polyurethane  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.001 - 0.099 in  
Height-Thickness Range (Metric)  
1.0 - 1.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black  
Product Form  
Rollstock  
Product Series  
SJ6016  
Product Type  
Rollstock  
Roll Width (Imperial)  
4.5 in, 9 in  
Roll Width (Metric)  
114 mm, 229 mm  
Shape  
Rollstock  
Width-Diameter Range  
4.00 - 4.99 in, 9.00 - 9.99 in  
Width-Diameter Range (Metric)  
100.0 - 199.9 mm, 200.0 - 299.0 mm  
eClass 14 Classification Group

23330803

### **Dimensions and Classifications**

Overall Length (Imperial)

36 yd

Overall Length (Metric)

32.91 m

Overall Thickness (Imperial)

0.062 in, 0.063 in

Overall Thickness (Metric)

1.6 mm

Overall Width (Imperial)

4.5 in, 9 in

Overall Width (Metric)

11.43 cm, 22.86 cm

# 3M™ Bumpon™ Quiet Clear Protective Products SJ6553, 5000/Case

3M ID 7000029680 UPC 00021200450433

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Synthetic Rubber (R25)  
Application  
Cushioning Spacer, Inside Door Frame Stops  
Availability  
Stocked  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
56 Shore M  
Height-Thickness Range  
0.100 - 0.199 in  
Height-Thickness Range (Metric)  
3.0 - 3.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Transparent  
Product Form  
Molded  
Product Series  
SJ6553  
Product Type  
Bumper  
Shape  
Hexagonal-Cone  
Width-Diameter Range  
0.300 - 0.399 in  
Width-Diameter Range (Metric)  
1.0 - 9.9 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Diameter (Imperial)

0.375 in, 0.433 in

Overall Diameter (Metric)

9.5 mm, 11 mm

Overall Height (Imperial)

0.12 in

Overall Height (Metric)

3.05 mm, 3.1 mm

Overall Length (Imperial)

0.375 in

Overall Length (Metric)

9.53 mm

Overall Width (Imperial)

0.12 in, 0.375 in

Overall Width (Metric)

3.05 mm, 9.53 mm



# 3M™ Bumpon™ Protective Products SJ57B1

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Natural Rubber (R30)  
Application  
Custom  
Availability  
Make to Order  
Backing Material  
Polyurethane  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.001 - 0.099 in  
Height-Thickness Range (Metric)  
1.0 - 1.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black, Gray  
Product Form  
Molded  
Product Series  
SJ57B1  
Product Type  
Bumper  
Shape  
Cylindrical with Flat Top  
Width-Diameter Range  
0.500 - 0.599 in  
Width-Diameter Range (Metric)  
10.0 - 19.9 mm  
eClass 14 Classification Group  
23330803

## Dimensions and Classifications

Overall Diameter (Imperial)

0.5 in  
Overall Diameter (Metric)  
12.7 mm  
Overall Height (Imperial)  
0.05 in  
Overall Height (Metric)  
1.3 mm  
Overall Length (Imperial)  
0.5 in  
Overall Length (Metric)  
12.7 mm  
Overall Width (Imperial)  
0.051 in  
Overall Width (Metric)  
1.3 mm

# 3M™ Novec™ Contact Cleaner Plus, 312 g (11 oz), 6 Canisters/Case

3M ID 7100067842 UPC 00051138992712

## Details

- Fast drying, low odor
- Non-flammable
- Excellent plastics compatibility
- Low toxicity
- Non-corrosive, Non-conductive
- Contains no HCFCs, HFCs, or nPB
- Non-ozone depleting
- No rinsing and no residue
- Low Global Warming Potential

## Typical properties

- Brands
  - Novec™
- Cleaning Performance (Fluorinated Oils)
  - Excellent
- Cleaning Performance (Heavy Oils & Greases)
  - Not Recommended
- Cleaning Performance (Hydraulic Fluid)
  - Very Good
- Cleaning Performance (Lead-free Flux)
  - Not Recommended
- Cleaning Performance (Light Oils)
  - Very Good
- Cleaning Performance (No-clean Flux)
  - Not Recommended
- Cleaning Performance (Particulate)
  - Excellent
- Cleaning Performance (Rosin-based Flux)
  - Not Recommended
- Cleaning Strength
  - Medium Duty
- Factory ISO Certification
  - No ISO Certification information available
- Volume (Imperial)
  - 11 fl oz
- Volume (Metric)
  - 325.31 mL
- eClass 14 Classification Group
  - 23060490

# 3M™ Novec™ 649 Engineered Fluid

## Details

Ultra Low Global Warming Potential  
Non-ozone depleting  
Large margin of safety in use  
Low viscosity  
High molecular weight  
Low pour point

## Typical properties

Application  
Dielectric Fluid, Power Electronic Cooling, Waste Heat Recovery  
Boiling Point (Celsius)  
49 °C  
Boiling Point (Fahrenheit)  
120 °F  
Boiling Point Range  
0 °C - 49 °C  
Brands  
Novec™  
Cleaning Strength  
Light Duty  
Compatibility  
Metal, Plastic  
Density  
1.6 g/cm<sup>3</sup>  
Dielectric Strength Range  
>40 kV  
Factory ISO Certification  
No ISO Certification information available  
Fluorocarbon Solubility  
Very High  
GWP (IPCC 2007)  
1 (100 yr ITH)  
GWP Range  
Very Low  
Hydrocarbon Solubility  
Low  
Net Weight (Imperial)  
11 lb, 38 lb, 353 lb, 661 lb  
Net Weight (Metric)  
5 kg, 17.24 kg, 160.12 kg, 299.83 kg  
Plastic Elastomer Compatibility  
Excellent  
Pour Point (Celsius)  
-108 °C  
Pour Point (Fahrenheit)  
-162 °F

Product Series  
Novec 649  
Purity Grade  
Standard  
Replacement For  
HFC-123a, HFC-245a, SF<sub>6</sub>  
Volume (Imperial)  
1 gal, 2.8 gal, 30 gal, 55 gal  
Volume (Metric)  
3.79 L, 10.78 L, 113.56 L, 208.2 L

### **Dimensions and Classifications**

Overall Height (Imperial)  
13.7 in, 17 in, 29 in, 35 in  
Overall Height (Metric)  
34.8 cm, 43.18 cm, 73.66 cm, 88.9 cm  
Overall Length (Imperial)  
9.25 in, 9.56 in, 18.3 in, 23.5 in  
Overall Length (Metric)  
23.5 cm, 24.29 cm, 46.48 cm, 59.69 cm  
Overall Width (Imperial)  
9.25 in, 9.56 in, 18.3 in, 23.5 in  
Overall Width (Metric)  
234.95 mm, 242.824 mm, 464.82 mm, 596.9 mm

# 3M™ High-Routability miniSAS to SATA Fanout Cable Assemblies, 8S36 Series

3M ID B5005034037

## Details

Supports SATA 1.0/2.0/3.0 and SAS 1.0/2.1 applications  
Internal cable construction is thin and lower profile than other similar AWG twin axial cables  
Allows for dense routing and flexible routing options within a chassis  
Foldable - allows for extremely

## Typical properties

Application  
High-speed Data Transmission  
Characteristic Impedance  
100 ohms  
Connector Style (End A)  
Plug  
Connector Style (End B)  
Receptacle  
Connector Type (End A)  
ST  
Connector Type (End B)  
ST  
Form Factor  
MiniSAS, SATA 7p  
Number of Cable Assembly Lanes  
x4  
Number of Conductors  
36  
Product Series  
8S36  
Product Usage  
Backplane/Midplane, Board-to-board, Mid-board Cables  
Protocol  
SAS, SATA  
Standard Size  
0.7 m,0.8 m,0.6 m  
Tech Sheet Number  
TS-2492  
Wire Gauge (Imperial)  
30 AWG  
eClass 14 Classification Group  
19051003

# **3M™ Pak 50 Stacking Compression Connector, 388 Series**

3M ID B5005028011

## **Details**

No solder joints, compression stacking connector  
Standardized interface for Intel Modular Interface eXtension (MIX) Bus (module to module and module to baseboard connector)  
Connector heights tailored for Multibus II environment  
130 contacts to fully ac

## **Typical properties**

Tech Sheet Number  
TS-0421  
eClass 14 Classification Group  
27460201

## **3M™ Twin Axial Cable, SL8802/08 Series, 4 Pair**

3M ID B5005035043 UPC 00076308609801

### **Details**

Flat, foldable

High Bandwidth

Mass processing and termination

Internal miniSAS, SFF 8087

See Regulatory Information Appendix link for chemical compliance information

For more information refer to Customer Drawing 78-5100-2413-2

### **Typical properties**

Conductor Material

Copper

Factory ISO Certification

No ISO Certification information available

Impedance

100  $\Omega$

Insulation Color

Silver

Insulation Material

Polyolefin

Number of Conductors

8

Number of Pairs

4

Pitch (Imperial)

0.093 in

Pitch (Metric)

2.37 mm

Product Series

SL8802

Tech Sheet Number

TS-2413

Wire Size

30 AWG

eClass 14 Classification Group

19051003



# 3M™ Thermally Conductive Acrylic Interface Pad 5578H

3M ID B5005036071

## Details

No silicone is used, siloxane gas which often causes electric connection failure can not be generated

Good softness and conformability even to non-flat IC surfaces

Incorporates a thin acrylic layer for good handling

Good thermal conductivity, good heat

## Typical properties

Application

Electrical Insulation, Heat Dissipation, Heat Spreading, Heat Transfer, Thermal Management

Product Usage

Battery Cooling Plates, Busbar, Displays, EV Batteries, Electronic Control Units, Inverters, Junction Boxes, LED Lighting Systems

# 3M™ Diamond Lapping Film 662XW, Sheets and Rolls

## Details

A higher diamond concentration and a stronger resin bond give this product added durability and increased cut rate over our standard diamond lapping film

- Increased throughput
- Flat surface, no rounding
- Good finish
- Long abrasive life minimizes disc chan

## Typical properties

- Abrasive Material
  - Diamond
- Application
  - Flat Lapping, Polishing, Superfinishing
- Attachment Type
  - Plain Back
- Factory ISO Certification
  - No ISO Certification information available
- Micron Grade
  - 0.5 µm, 1 µm, 3 µm, 6 µm
- Polishing Process
  - Step 2b: Refine/Level Connector (Ceramic Connector)
- Product Form
  - Roll, Sheet
- Product Series
  - 662XW
- Product Usage
  - Ceramic Fiber Optic Connectors, Fiber Optic Connectors
- Substrate
  - Carbide, Ceramic, Composite, Exotic Alloy, Glass, Stone

## Dimensions and Classifications

- Overall Length (Imperial)
  - 6 in, 8.5 in, 11 in, 50 ft
- Overall Length (Metric)
  - 15.24 m, 152.4 mm, 215.9 mm, 279.4 mm
- Overall Width (Imperial)
  - 1 in, 6 in, 8.5 in, 9 in
- Overall Width (Metric)
  - 25.4 mm, 152.4 mm, 215.9 mm, 228.6 mm

**3M™ Molded Assembly, .100 Series, 87**  
**S26P26-3365-0070(RC)S26P26-3365-0070(RC)**

3M ID 7000098826 UPC 00051119951523

**Details**

Part of a complete cable assembly  
Mates with industry standard IC sockets / .100 × .300 inch up to 20 contacts and  
.100 × .600 inch between 24 and 40 contacts  
One piece, molded-on construction with integral strain relief  
Low profile allows close stacki

**Typical properties**

Connector Style (End A)  
Plug  
Connector Style (End B)  
Receptacle  
Connector Type (End A)  
DIP  
Connector Type (End B)  
Socket  
Factory ISO Certification  
No ISO Certification information available  
Number of Conductors  
26  
Pitch (Imperial)  
0.1 in  
Pitch (Metric)  
2.54 mm  
Tech Sheet Number  
TS-2152  
eClass 14 Classification Group  
27460202

# 3M™ Bumpon™ Protective Products SJ5323 Clear, 1000/Case

3M ID 7000052142 UPC 00021200445286

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Acrylic (A20)  
Application  
Custom  
Availability  
Make to Order  
Backing Material  
Polyurethane  
Base Width  
0.812 in  
Base Width (Metric)  
20.6 mm  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
75 Shore M  
Height-Thickness Range  
0.300 - 0.399 in  
Height-Thickness Range (Metric)  
7.0 - 7.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Transparent  
Product Form  
Molded  
Product Series  
SJ5323  
Product Type  
Bumper  
Shape  
Square-Tapered w/ Flat Top  
Width-Diameter Range  
0.800 - 0.899 in  
Width-Diameter Range (Metric)

20.0 - 29.9 mm  
eClass 14 Classification Group  
23330803

### **Dimensions and Classifications**

Overall Height (Imperial)

0.3 in

Overall Height (Metric)

7.62 mm

Overall Length (Imperial)

0.812 in

Overall Length (Metric)

20.62 mm

Overall Width (Imperial)

0.812 in

Overall Width (Metric)

20.62 mm

# 3M™ Bumpon™ Protective Products SJ61A1 Black, 10,000/Case

3M ID 7000049250 UPC 00051115258039

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Synthetic Rubber (R25)  
Application  
Custom  
Availability  
Make to Order  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.200 - 0.299 in  
Height-Thickness Range (Metric)  
5.0 - 5.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black  
Product Form  
Molded  
Product Series  
SJ61A1  
Product Type  
Bumper  
Shape  
Cylindrical with Flat Top  
Width-Diameter Range  
0.300 - 0.399 in  
Width-Diameter Range (Metric)  
1.0 - 9.9 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Diameter (Imperial)

0.312 in

Overall Diameter (Metric)

7.9 mm

Overall Height (Imperial)

0.2 in

Overall Height (Metric)

5.1 mm

Overall Length (Imperial)

0.312 in

Overall Length (Metric)

7.92 mm

Overall Width (Imperial)

0.2 in

Overall Width (Metric)

5.08 mm

# 3M™ Bumpon™ Protective Products SJ5329 Clear, 5000/Case

3M ID 7100047883 UPC 50021200877853

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Acrylic (A20)  
Application  
Custom  
Availability  
Make to Order  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
75 Shore M  
Height-Thickness Range  
0.001 - 0.099 in  
Height-Thickness Range (Metric)  
2.0 - 2.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Transparent  
Product Form  
Molded  
Product Series  
SJ5329  
Product Type  
Bumper  
Shape  
Cylindrical with Flat Top  
Width-Diameter Range  
0.300 - 0.399 in  
Width-Diameter Range (Metric)  
1.0 - 9.9 mm  
eClass 14 Classification Group  
23330803



## **Dimensions and Classifications**

Overall Diameter (Imperial)

0.354 in

Overall Diameter (Metric)

9 mm

Overall Height (Imperial)

0.085 in

Overall Height (Metric)

2.2 mm

Overall Length (Imperial)

0.354 in

Overall Length (Metric)

8.99 mm

Overall Width (Imperial)

0.085 in

Overall Width (Metric)

2.16 mm

# 3M™ Bumpon™ Resilient Rollstock SJ5801 Black R30FL, 4.5 in x 72 yds

3M ID 7000049346 UPC 00051115528996

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Natural Rubber (R30)  
Application  
Cushioning Spacer, Cushioning Stop, Gasketing, Notebook Computer Non-Skid Feet, Protective Non-Skid Feet, Surface Protection, Surface Protection for Sub-Assembly Racks  
Availability  
Make to Order  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.001 - 0.099 in  
Height-Thickness Range (Metric)  
1.0 - 1.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black  
Product Form  
Rollstock  
Product Series  
SJ5801  
Product Type  
Rollstock  
Roll Width (Imperial)  
4.5 in  
Roll Width (Metric)  
114 mm  
Shape  
Rollstock

Width-Diameter Range  
4.00 - 4.99 in  
Width-Diameter Range (Metric)  
100.0 - 199.9 mm  
eClass 14 Classification Group  
23330803

### **Dimensions and Classifications**

Overall Length (Imperial)  
72 yd  
Overall Length (Metric)  
65.83 m  
Overall Thickness (Imperial)  
0.0394 in  
Overall Thickness (Metric)  
1 mm  
Overall Width (Imperial)  
4.5 in  
Overall Width (Metric)  
114.3 mm

# 3M™ Bumpon™ Protective Products SJ61A2 Black, 10,000/Case

3M ID 7000049251 UPC 00051115258091

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type  
Synthetic Rubber (R25)  
Application  
Custom  
Availability  
Make to Order  
Backing Material  
Polyurethane  
Brands  
Bumpon™  
Factory ISO Certification  
No ISO Certification information available  
Hardness  
72 Shore M  
Height-Thickness Range  
0.200 - 0.299 in  
Height-Thickness Range (Metric)  
6.0 - 6.9 mm  
Primary Liner  
Translucent Polyester Film  
Product Color  
Black  
Product Form  
Molded  
Product Series  
SJ61A2  
Product Type  
Bumper  
Shape  
Circular-Hemisphere  
Width-Diameter Range  
0.300 - 0.399 in  
Width-Diameter Range (Metric)  
1.0 - 9.9 mm  
eClass 14 Classification Group  
23330803

## **Dimensions and Classifications**

Overall Diameter (Imperial)

0.375 in

Overall Diameter (Metric)

9.5 mm

Overall Height (Imperial)

0.235 in

Overall Height (Metric)

6 mm

Overall Length (Imperial)

0.375 in

Overall Length (Metric)

9.53 mm

Overall Width (Imperial)

0.235 in

Overall Width (Metric)

5.97 mm

## **3M™ Polyester/Silicone Tape 851ST**

Part Number 851ST 3M ID B5005036058

### **Details**

Abrasion, chemical and thermal resistant

Removes cleanly from stainless steel after 30 min at 425 Degree F(218 Degree C)

Higher heat resistance as compared with acrylics

Easy and clean removability

Polyethylene tape core instead of cardboard

## **3M™ Pak 50 Boardmount Socket, P50 Series**

3M ID B5005032006

### **Details**

High density connectors with up to 200 contacts  
Horizontal, parallel and vertical mating availability  
Insulator designed to prevent mating misalignment  
RoHS compliant  
For more information refer to Data Sheet TS2050 (TS-2050)

### **Typical properties**

Tech Sheet Number  
TS-2050  
eClass 14 Classification Group  
27460201

# 3M™ 25G SFP28 Direct Attach Copper Cable Assemblies 1422/1423 Series

3M Product Number 25G SFP28 3M ID B5005035047

## Details

- Delivers data rates up to 25 Gbps per channel
- Helps maximize cable routing efficiency
- Helps maximize airflow for effective cooling
- Requires less space in front of port allowing rack doors to close
- Compact cabling helps improve serviceability
- Foldable

## Typical properties

- Aggregate Data Rate  
25G
- Application  
Networking
- Characteristic Impedance  
100 ohms
- Connector Style (End A)  
Plug
- Connector Style (End B)  
Plug
- Connector Type (End A)  
ST
- Connector Type (End B)  
ST
- Form Factor  
SFP28
- Number of Cable Assembly Lanes  
x1
- Number of Conductors  
4
- Product Series  
1422
- Product Usage  
Switch
- Protocol  
Ethernet
- Standard Size  
3.0 m, 2.0 m, 1.0 m
- Tech Sheet Number  
TS-2664
- eClass 14 Classification Group  
19051003



## **3M™ Polyester/Silicone Tape 852RW**

Part Number 852RW 3M ID B5005036059

### **Details**

Abrasion, chemical and thermal resistant  
Higher heat resistance as compared with acrylics  
Easy and clean removability  
Polyethylene tape core instead of cardboard

# **3M™ Thermally Conductive Acrylic Interface Pad 5550H**

3M ID B5005065038

## **Details**

Very soft but good handling

Good softness and conformability even to non-flat IC surfaces

Incorporates a thin firm acrylic layer for good handling

Good thermal conductivity and good electrical insulation properties

Slight tack allows pre-assembly. Goo

## **Typical properties**

Application

Electrical Insulation, Heat Dissipation, Heat Spreading, Heat Transfer, Thermal Management

Product Usage

Battery Cooling Plates, Busbar, Displays, EV Batteries, Electronic Control Units, Inverters, Junction Boxes, LED Lighting Systems

# 3M™ Wetordry™ Polishing Paper 286Q, Discs

## Details

- Use wet or dry
- Precision micron coated mineral for a uniform, consistent finish
- Shortens hand sanding and buffing time
- Reduces finishing steps and saves time
- Color-coded micron grading for easy selection

## Typical properties

- Abrasive Material
- Aluminum Oxide
- Application
- Final Finishing, Finishing, Refining, Repairing
- Attachment Type
- PSA Back
- Factory ISO Certification
- No ISO Certification information available
- Micron Grade
- 3 µm, 9 µm
- Product Color
- Blue, Red
- Product Form
- Disc, Disc Roll
- Product Series
- 286Q
- Product Usage
- CDs/DVDs, Jewelry, PC
- Substrate
- ABS, Fiberglass, Metal, PMMA, Plastic, Polyurethane, Precious Metal, Solid Surface Composite

## Dimensions and Classifications

- Overall Diameter (Imperial)
- 5 in
- Overall Diameter (Metric)
- 127 mm

# 3M™ Diamond Lapping Film Sheet 668X

## Details

- PSA-backed
- Most widely used diamond lapping film
- Fast cut, increased throughput
- Flat surfaces and low edge rounding
- Uniform finish
- Long abrasive life minimizes abrasive changes

## Typical properties

- Abrasive Material
  - Diamond
- Attachment Type
  - PSA Back
- Backing Material
  - Polyester Film
- Backing Thickness (Imperial)
  - 3 mil
- Backing Thickness (Metric)
  - 0.076 mm
- Factory ISO Certification
  - No ISO Certification information available
- Micron Grade
  - 1 µm, 15 µm, 30 µm, 9 µm
- Product Form
  - Sheet
- Product Series
  - 668X

## Dimensions and Classifications

- Overall Length (Imperial)
  - 6 in, 8 in, 11 in
- Overall Length (Metric)
  - 152.4 mm, 203.2 mm, 279.4 mm
- Overall Width (Imperial)
  - 3 in, 6 in, 9 in
- Overall Width (Metric)
  - 76.2 mm, 152.4 mm, 228.6 mm

# **3M™ Lapping Film 263X, 0.05 Micron Disc, 5 in x NH, 50/Inner, 500/Case**

3M ID 7000000559 UPC 00051144863457

## **Details**

Tight particle distribution  
Harder resin system than 261X  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## **Typical properties**

Abrasive Material  
Aluminum Oxide  
Application  
Polishing, Superfinishing  
Attachment Type  
Plain Back  
Brands  
3M™  
Factory ISO Certification  
No ISO Certification information available  
Micron Grade  
0.05 µm  
Product Form  
Disc  
Product Series  
263X  
Product Usage  
Fiber Optic Connectors

## **Dimensions and Classifications**

Overall Diameter (Imperial)  
5 in  
Overall Diameter (Metric)  
127 mm

# 3M™ I/O Interconnect System 2.0 mm for IEEE 1394, 3E106 Series, 3E106-2230KV, 100 Ea/Case

3M ID 7010402334 UPC 04548623140070

## Details

Robust ribbon style contact for reliable, repetitive plugging  
Body tabs provide lateral support to solder joints and help enable shield  
grounding  
Upright orientation conserves PCB real estate  
360° shielding for excellent EMI protection  
Six contacts ca

## Typical properties

Brands  
3M™  
Connector Style  
Plug  
Contact Base Material  
Copper Alloy  
Factory ISO Certification  
No ISO Certification information available  
Mounting Type  
Boardmount  
Number of Contact Rows  
2  
Number of Contacts  
6  
Pitch (Imperial)  
0.079 in  
Pitch (Metric)  
2 mm  
Product Color  
Silver  
Tech Sheet Number  
TS-2294  
eClass 14 Classification Group  
27460201

## **3M™ Lapping Film 263X Sheets**

### **Details**

Tight particle distribution  
Harder resin system than 261X  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

### **Typical properties**

Abrasive Material  
Aluminum Oxide  
Application  
Buffing, Finishing, Flat Lapping, Grinding, Polishing, Refining, Shaping, Superfinishing  
Attachment Type  
Plain Back  
Brands  
3M™  
Factory ISO Certification  
No ISO Certification information available  
Micron Grade  
0.05 µm, 0.3 µm, 40 µm, 60 µm  
Polishing Process  
Step 3: Polish/Finish  
Product Form  
Roll, Sheet  
Product Series  
263X  
Product Usage  
Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Hard Disc Drive Lubes, Media Heads, Optical  
Substrate  
Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

### **Dimensions and Classifications**

Overall Length (Imperial)  
11 in  
Overall Length (Metric)  
279.4 mm  
Overall Width (Imperial)  
8.5 in  
Overall Width (Metric)  
215.9 mm

## 3M™ Mini-Clamp III Socket 37B Series

3M ID B5005367001 UPC 04550309225018

### Details

Easy, quick and reliable IDC Termination  
No need to strip wire insulation; Saves time and helps prevent wire damage  
No special tooling required  
Enables easy field termination  
Compact design saves space  
Compatible with wire from 20-26AWG  
Optional la

### Typical properties

Application  
Wire-to-wire Connecting  
Connector Style  
Receptacle  
Factory ISO Certification  
No ISO Certification information available  
Maximum Conductor Size (Metric)  
0.5 mm<sup>2</sup>  
Minimum Conductor Size (Metric)  
0.12 mm<sup>2</sup>, 0.25 mm<sup>2</sup>  
Mounting Type  
Wiremount  
Number of Contact Rows  
1  
Number of Contacts  
3 , 4  
Pitch (Imperial)  
0.08 in  
Pitch (Metric)  
2 mm  
Product Color  
Gray, White, Yellow  
Tech Sheet Number  
TS-2767  
Termination Method  
IDC  
eClass 14 Classification Group  
27460202



## **3M™ PIM Reduction Kit, 1300**

3M Product Number 1300 3M ID 7100296995 UPC 00638060910580

### **Details**

Efficient, effective solution for passive intermodulation (PIM) issues in wireless network infrastructure  
Out-of-the-box solution  
Helps protect against conducted PIM interference  
Ideal for water-resistant and humidity-resistant seals  
Excellent resista

### **Typical properties**

Application  
EMI Absorbing  
Brands  
3M™  
Factory ISO Certification  
No ISO Certification information available  
Frequency Range  
1 GHz - 3 GHz  
Product Usage  
Antennas, Enclosures  
eClass 14 Classification Group  
27182804

# 3M™ Electrically Conductive Double-Sided Tape 5113DFT

## Details

Isotropic XYZ-axis conductivity through the adhesive  
Excellent grounding with small contact areas for microelectronics  
Excellent EMI shielding performance for a wide range of frequencies  
Excellent EMI shielding in bond line gap  
Four-year shelf life fo

## Typical properties

Adhesion Strength (Imperial)

1500 gf/in

Adhesive Type

Polyolefin

Application

Attaching, Electrostatic Discharge (ESD), Grounding, Interconnecting, Passive Intermodulation (PIM) Management

Backing (Carrier) Material

Woven Fabric

Electrical Resistance

XY-axis 0.01  $\Omega$ , Z-axis 0.03  $\Omega$

Liner Material

PET

Maximum Operating Temperature (Celsius)

121 °C

Maximum Operating Temperature (Fahrenheit)

250 °F

Minimum Operating Temperature (Celsius)

-40 °C

Minimum Operating Temperature (Fahrenheit)

-40 °F

Product Color

Gray

Product Usage

Bond Line Gaps, Chassis, EMI Gaskets, EMI Shields, Flexible Printed Circuits, Printed Circuit Boards, Sensors

Shelf Life

48 Month

Total Tape Thickness without Liner (Imperial)

2 mil

Total Tape Thickness without Liner (Metric)

0.05 mm

## Dimensions and Classifications

Overall Length (Imperial)

10.936 yd, 32.808 yd, 65.617 yd

Overall Length (Metric)

10 m, 30 m, 60 m

Overall Width (Imperial)

0.984 in, 1.969 in, 4.134 in, 8.268 in, 19.685 in, 42.52 in

Overall Width (Metric)

25 mm, 50 mm, 105 mm, 210 mm, 500 mm, 1080 mm

# 3M™ Camera Link Industrial Camera Cable Assembly, MDR/SDR, 1Mx26-x5xx Series

3M Product Number 1Mx26-x5xx Series 3M ID B5005510003 UPC 04548623466958

## Details

MDR-to-SDR assembly for camera-to-frame-grabber communications  
Camera side plug connectors are available in a variety of configurations for space savings and design flexibility  
Base-medium and full configurations are available  
Available in PoCL and non

## Typical properties

Application  
High-flexibility Connecting, High-speed Connecting, High-speed Data Transmission  
Brands  
3M™  
Cable Length (Imperial)  
3.281 ft, 6.562 ft, 9.843 ft, 16.404 ft, 22.966 ft, 32.808 ft  
Cable Length (Metric)  
1 m, 2 m, 3 m, 5 m, 7 m, 10 m  
Cable Outside Diameter (Imperial)  
0.272 in, 0.343 in, 0.354 in  
Cable Outside Diameter (Metric)  
6.9 mm, 8.7 mm, 9 mm  
Connector Style (End A)  
Plug  
Connector Style (End B)  
Plug  
Connector Type (End A)  
MDR, SDR  
Connector Type (End B)  
MDR, SDR  
Factory ISO Certification  
No ISO Certification information available  
Product Color  
Beige, Black, Gray  
Product Series  
1Mx26-x5xx  
Product Usage  
Cameras, Control Units, Frame Grabbers  
Protocol  
CameraLink  
Tech Sheet Number  
TS-2802

# 3M™ Trizact™ Pad Conditioner

## Details

3D microreplicated structures help manufacturers deliver precision and control for unique requirements

Diamond coated ceramic material can be manufactured to key specifications for maximum yield and pad life

Metal-free composition is ideal advanced node

## Typical properties

Abrasive Material

CVD coated ceramic

Abrasive Working Surface

B5-M990 Pattern, B6-1900 Pattern, B75-2990 Pattern

Application

Advanced Node (Memory & Logic), CMP, Wafer Manufacturing

CMP Process

Cu (Barrier), STI Process

Carrier Diameter (Imperial)

4.25 in

Carrier Diameter (Metric)

107.95 mm

Carrier Form

Disc

Carrier Material

Stainless Steel

Factory ISO Certification

No ISO Certification information available

Product Series

B5-M990, B6-1900, B75-2990

Product Type

Diamond Pad Conditioner

# 3M™ Electrically Conductive Single-Sided Tape 1020BC Series

## Details

- XYZ-axis conductivity
- Stiffer copper for improved workability
- Sleek black conductive coating
- Low electrical resistance
- Excellent EMI shielding performance
- Excellent conformability and quick bonding
- Good handling
- Halogen free\* and RoHS compliant\*\*

## Typical properties

- Adhesion Strength (Imperial)  
1300 gf/in
- Adhesive Type  
Acrylic
- Application  
EMI Shielding, Passive Intermodulation (PIM) Management
- Backing (Carrier) Material  
Copper Foil
- Electrical Resistance  
XY-axis 0.015  $\Omega$ , Z-axis 0.1  $\Omega$
- Factory ISO Certification  
No ISO Certification information available
- Liner Material  
PET
- Maximum Operating Temperature (Celsius)  
121 °C
- Maximum Operating Temperature (Fahrenheit)  
250 °F
- Minimum Operating Temperature (Celsius)  
-40 °C
- Minimum Operating Temperature (Fahrenheit)  
-40 °F
- Product Color  
Black
- Product Usage  
Camera Modules, Display Chip on Flex, Display Wraps, EMI Shields, Printed Circuit Boards, Sensors
- Shelf Life  
12 Month
- Total Tape Thickness without Liner (Imperial)  
0.984 mil
- Total Tape Thickness without Liner (Metric)  
0.025 mm

## Dimensions and Classifications

Overall Length (Imperial)  
10.936 yd, 32.808 yd, 109.361 yd  
Overall Length (Metric)  
10 m, 30 m, 100 m  
Overall Width (Imperial)  
0.984 in, 3.937 in, 19.685 in  
Overall Width (Metric)  
25 mm, 100 mm, 500 mm

# 3M™ 100G QSFP28 to 2xQSFP28 Direct Attach Copper Cable Assemblies, 9S Series

3M Product Number 100G QSFP28 to 2xQSFP28 3M ID B5005117071

## Details

Excellent for versatile external DAC connectivity to servers and related high-speed equipment

Delivers aggregate data bandwidth up to 100 Gbps (4x 25 Gbps)

Maximizes cable management in TOR, NIC and other applications

Meets PCIe® 3.0 standards

Foldabl

## Typical properties

Aggregate Data Rate

100G

Application

Networking

Characteristic Impedance

100 ohms

Connector Style (End A)

Plug

Connector Style (End B)

Plug

Connector Type (End A)

ST

Connector Type (End B)

ST

Form Factor

QSFP28

Number of Cable Assembly Lanes

x4

Number of Conductors

16

Product Series

9S

Product Usage

Switch

Protocol

Ethernet

Standard Size

3.0 m,2.0 m,1.0 m

Tech Sheet Number

TS-2684

eClass 14 Classification Group

19051003



# 3M™ Lapping Film 266X, Discs

## Details

PSA-backed  
Tight particle distribution  
Harder resin system than 261X  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls

## Typical properties

Abrasive Material  
Aluminum Oxide  
Application  
Polishing, Superfinishing  
Attachment Type  
PSA Back  
Factory ISO Certification  
No ISO Certification information available  
Micron Grade  
0.3 µm, 12 µm, 3 µm, 30 µm, 9 µm  
Product Form  
Disc  
Product Usage  
Fiber Optic Connectors

## Dimensions and Classifications

Overall Diameter (Imperial)  
4 in, 8 in, 10 in, 12 in  
Overall Diameter (Metric)  
101.6 mm, 203.2 mm, 254 mm, 304.8 mm

## **3M™ Mini-Clamp Common Socket 37C Series**

3M Product Number 37C Series 3M ID B5005143000

### **Details**

Accepts up to two 3M Mini-Clamp plugs for efficient space and wire savings  
Supports power and signal splitting on the sensor wire  
Utilizes insulation-displacement connector (IDC) technology for easy installation  
Field-terminable installation process us

### **Typical properties**

Application  
Wire Branching  
Brands  
3M™  
Connector Style  
Receptacle  
Tech Sheet Number  
TS-2696  
eClass 14 Classification Group  
27460202

## 3M™ CF Card Header, 7E50 Series, N7E50-X516XX-20

3M ID B5005219006 UPC 04547452459421

### Details

Meets CFA standards  
Single row solder tails with 0.635 mm spacing  
Ejector option for easy removal of CF Card  
Retainer clip option permits stability for mobile and high vibration applications  
For more information refer to Data Sheet TS0662 (TS-0662)  
S

### Typical properties

Card Standard  
CompactFlash®  
Card Type  
Type I  
Connector Style  
Plug, Receptacle  
Current Rating  
0.5 A  
Factory ISO Certification  
No ISO Certification information available  
Features  
Board Guide, Card Guide  
Insertion/Removal Method  
Push-in/Pull-out  
Mating Contact Finish Material  
Gold  
Mating Contact Finish Thickness (Imperial)  
<10 µin  
Mating Contact Finish Thickness (Metric)  
<0.25 µm  
Maximum Operating Temperature (Celsius)  
85 °C  
Maximum Operating Temperature (Fahrenheit)  
185 °F  
Minimum Operating Temperature (Celsius)  
-55 °C  
Minimum Operating Temperature (Fahrenheit)  
-67 °F  
Mounting Type  
Boardmount  
Number of Contact Rows  
1 , 2  
Number of Contacts  
50  
Packaged Form  
Tape & Reel, Tray  
Product Color

Beige  
Product Series  
N7E50  
Stack Height (Imperial)  
0.261 in  
Stack Height (Metric)  
6.629 mm  
Tech Sheet Number  
TS-0662  
Withstanding Voltage  
500 VAC for 1 min  
eClass 14 Classification Group  
27440211

# **3M™ Thermally Conductive Adhesive Transfer Tape 8805, 4 in x 10 yds, Sample**

3M ID 7000050171 UPC 00021200599859

## **Details**

- High mechanical strength
- Improved surface wet-out for rough surface/LSE substrates
- Excellent shock performance
- Wider and longer roll is available
- Halogen free
- Ideal for thin bonding applications
- Good thermal transfer

## **Typical properties**

- Adhesive Type
  - Acrylic
- Brands
  - 3M™
- Factory ISO Certification
  - No ISO Certification information available
- Total Tape Thickness without Liner (Imperial)
  - 5 mil
- Total Tape Thickness without Liner (Metric)
  - 0.125 mm

## **Dimensions and Classifications**

- Overall Length (Imperial)
  - 10 yd
- Overall Length (Metric)
  - 9.14 m
- Overall Width (Imperial)
  - 4 in
- Overall Width (Metric)
  - 101.6 mm

# 3M™ Lapping Film Roll 261X

## Details

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls  
Get a uniform finish on a number of substrates

## Typical properties

Abrasive Material  
Aluminum Oxide  
Application  
Flat Lapping, Polishing, Superfinishing  
Attachment Type  
Plain Back  
Backing Thickness (Imperial)  
3 mil  
Backing Thickness (Metric)  
0.076 mm  
Center Hole Diameter (Imperial)  
3 in  
Center Hole Diameter (Metric)  
76 mm  
Factory ISO Certification  
No ISO Certification information available  
Micron Grade  
12 µm, 3 µm, 30 µm, 5 µm, 9 µm  
Polishing Process  
Step 1: De-Nub/Epoxy Removal, Step 2b: Refine/Level Connector (Ceramic Connector)  
Product Form  
Roll  
Product Series  
261X  
Product Usage  
Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Optical Substrate  
Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## Dimensions and Classifications

Overall Length (Imperial)  
150 ft, 600 ft  
Overall Length (Metric)  
45.72 m, 182.88 m  
Overall Width (Imperial)  
3 in, 4 in  
Overall Width (Metric)  
76.2 mm, 101.6 mm

## **3M™ Intra-Switches**

3M ID B00026212 UPC 00054007745549

### **Typical properties**

Factory ISO Certification  
No ISO Certification information available  
Number of Contacts  
20 , 34 , 40  
Tech Sheet Number  
FB-0008

# 3M™ Twin Axial Cable, Jacketed, SL9000 Series, 2 Pair, 2 Center Drains

3M ID B00026591 UPC 00051115600883

## Details

Flat, foldable

High bandwidth

Mass processing and termination

Low bend radius

SFP+ assemblies

SFF-8431

VW-1

Also available in a halogen-free version

For more information, refer to Customer Drawing 78-5100-2434-8 (78510024348)

## Typical properties

Conductor Material

Copper

Factory ISO Certification

No ISO Certification information available

Impedance

100  $\Omega$

Insulation Color

Silver

Insulation Material

Polyolefin

Number of Conductors

4

Number of Pairs

2

Pitch (Imperial)

0.093 in

Pitch (Metric)

2.37 mm

Product Series

SL9000

Tech Sheet Number

TS-2434

Wire Size

30 AWG

eClass 14 Classification Group

19051003



# **3M™ Power Backplane Female Socket Module for Hard Metric (HM) Applications, HM-PWR-SCK Series, HM-PWR-SCK-01-LR**

3M ID 7010500437 UPC 00051115587924

## **Details**

Press-fit power connectors with right angle male and vertical female  
Three power contacts with 8 amps per contact rating  
Three different contact lengths for early mate late break (EMLB) applications  
Designed to be used with 3M™ CP2, HM and HSHM Connect

## **Typical properties**

Brands: 3M™  
Connector Style: Receptacle  
Factory ISO Certification: No ISO Certification information available  
Mounting Type: Boardmount  
Number of Contact Rows: 1  
Number of Contacts: 3  
Pitch (Imperial): 0.118 in  
Pitch (Metric): 3 mm  
Tech Sheet Number: TS-2382  
eClass 14 Classification Group: 27460201

## **3M™ Polycarbonate Carrier Tape 3202R 2D Barcode Series**

3M Product Number 3202R 3M ID B5005430006

### **Details**

Small pocket holes – 3M Optical Precision Process creates ultra small pocket holes of less than .01 mm  
Reduced pocket opening radius (component thickness  $\leq 0.15\text{mm}$ )  
High quality 2D barcodes included with each pocket of precision formed carrier tape  
Open

### **Typical properties**

Application: Electronic Component Packaging  
Material: Polycarbonate  
Product Color: Black  
Product Usage: Bare Die, Discrete Components, ICs, LEDs, Passive Components, WLCSP  
Surface Resistance:  $1.0 \times 10^4 \Omega$  -  $1.0 \times 10^8 \Omega$   
eClass 14 Classification Group: 27140708

## **3M™ Mini Stack Connector Interface Unit 3ST Series**

3M ID B5005456001 UPC 04550309338138

### **Details**

Used for space-saving interconnection between controllers and electronic devices such as sensors and switches  
Compact 16- or 32-channel connector saves DIN rail mounting space  
Requires no external power supply unit  
Can be mounted horizontally or vertically

### **Typical properties**

Application: Terminal Board Connecting  
Connector Style: Interface Unit  
Factory ISO Certification: No ISO Certification information available  
Maximum Conductor Size (Imperial): 16 AWG  
Maximum Conductor Size (Metric): 1.5 mm<sup>2</sup>  
Minimum Conductor Size (Imperial): 24 AWG  
Minimum Conductor Size (Metric): 0.25 mm<sup>2</sup>  
Tech Sheet Number: TS-2781  
eClass 14 Classification Group: 27460202

# 3M™ Diamond Lapping Film Sheet 661X

## Details

Most widely used diamond lapping film  
Fast cut, increased throughput  
Flatter surface and sharp edges  
Uniform finish

## Typical properties

Abrasive Material: Diamond  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 0.1 µm, 0.5 µm, 1 µm, 1.5 µm, 15 µm, 30 µm, 6 µm, 9 µm  
Product Form: Sheet  
Product Series: 661X

## Dimensions and Classifications

Overall Length (Imperial): 4.5 in, 5.5 in, 6 in, 8.5 in, 11 in, 14 in  
Overall Length (Metric): 114.3 mm, 139.7 mm, 152.4 mm, 215.9 mm, 279.4 mm, 355.6 mm  
Overall Width (Imperial): 3 in, 4.5 in, 5.5 in, 6 in, 8.5 in, 9 in  
Overall Width (Metric): 76.2 mm, 114.3 mm, 139.7 mm, 152.4 mm, 215.9 mm, 228.6 mm

# **3M™ Mini Delta Ribbon (MDR) Cable Assembly**

3M ID B00035643

## **Details**

Solution for high speed datacom and telecom applications  
Eight shielded differential pairs plus two conductors for high bandwidth applications  
Each differential pair has a foil shield and drain  
Entire cable is shielded with a foil and braid for additio

## **Typical properties**

Current Rating: 1.0 A  
Jacket Material: PVC  
Number of Positions: 26  
Shell Material: ABS  
Specifications Met: AWM VW-1  
Tech Sheet Number: TS-0967  
eClass 14 Classification Group: 27060304

# **3M™ Mini Delta Ribbon (MDR) Cable Assembly, 1WL26-TZ3B-XXX-04C**

3M ID B00035678

## **Details**

Flexible cable enables moving head applications

Mates to popular 3M MDR 26 position receptacle on one end, and to another MDR 26 position cable assembly on the other

Male to Female configuration enables use as an extension or Bulkhead/Feed-thru cable

F

## **Typical properties**

Jacket Material: PVC

Number of Positions: 26

Shell Material: Polyester Elastomer

Specifications Met: AWM VW-1

Tech Sheet Number: TS-2261

eClass 14 Classification Group: 27060304

## 3M™ DIP Socket, 4800 Series

3M ID B00036325 UPC 04710367271772

### Details

Dual leaf, high compression contact provides reliable termination  
Automatic insertion option is compatible with most insertion equipment  
Side and end stackable  
RoHS Compliant. See Regulatory Information Appendix link for chemical compliance information

### Typical properties

Contact Base Material: Phosphor Bronze  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 35.0 µin  
Contact Underplating Thickness (Metric): 0.89 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Frame Style: Open  
Insulation Material: Glass Filled Polyester  
Integrated Circuit Type: DIP  
Mating Contact Finish Material: Matte Tin  
Mating Contact Finish Thickness (Imperial): 135 µin  
Mating Contact Finish Thickness (Metric): 3.43 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -25 °C  
Minimum Operating Temperature (Fahrenheit): -13 °F  
Number of Contact Rows: 2  
Number of Contacts: 8 , 14 , 16 , 18 , 20 , 24 , 28 , 32 , 40 , 42 , 48  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Tech Sheet Number: TS-1099  
eClass 14 Classification Group: 27261708

# 3M™ Power Connectors for MicroTCA™ Applications, Male

3M ID B00036404

## Details

Supports PICMG MicroTCA (AdvancedMC™ 1.0) specification  
24 high power contacts and 72 high density signal contacts  
Backplane and daughtercard versions  
Press-fit termination  
Mating force: 145 N Max.; Withdrawal force: 110 N Max  
Supports 200 Mating Cyc

## Typical properties

Tech Sheet Number: TS-2367  
eClass 14 Classification Group: 27460201



# 3M™ Ultra Hard Metric (UHM) Press-fit Socket Connectors, 5-Row

3M ID B00036690 UPC 00051111470275

## Details

- 7+ Gbps data rates when mated to standard IEC 61076-4-101 headers
- Low crosstalk at high frequencies
- 50/100 Ohm (single-ended/differential) impedance
- Modular/scalable format IEC 61076-4-101
- Press-fit headers and receptacles
- 63 mated lines per linear i

## Typical properties

- Connector Style: Receptacle
- Contact Base Material: Copper Alloy
- Contact Plating: TG30, TG30, KR
- Current Rating (Fully Loaded): 1 Ampere @ 70 Degree C Signal
- Data Rate: 7+ Gbps data rates (when mated to standard IEC 61076-4-101 headers)
- Engagement Force (Nominal): 0.32 N [33 g] Signal, (0.22 N [22 g] Shield with HSHM & UHM headers)
- Factory ISO Certification: No ISO Certification information available
- Flammability: UL 94V-0
- Insulation Material: High Temperature Thermoplastic (LCP)
- Mechanical Application: This module is not suitable for stand-alone use, additional guide features recommended per IEC 61076-4-101
- Mounting Type: Boardmount
- Normal Force (Nominal): 0.57 N [58 g] Signal, (0.74 N [75 g] Shield with HSHM & UHM headers)
- Number of Contact Rows: 5
- Number of Contacts: 95 , 110
- Pitch (Imperial): 0.079 in
- Pitch (Metric): 2 mm
- Separation Force (Nominal): 0.20 N [20 g] Signal, (0.20 N [20 g] Shield with HSHM & UHM headers)
- Tech Sheet Number: TS-2533
- Temperature Rating: -55 Degree C to +125 Degree C, -55 Degree C to 125 Degree C
- Wipe (Nominal, Shortest Contact): 2.67 mm [0.105 in] Signal, 1.57 mm [0.062 in] Shield
- Withstanding Voltage: 750 Vrms
- eClass 14 Classification Group: 27460201

## 3M™ Mini-Clamp II Socket, 373 Series

3M Product Number 373 Series 3M ID B00036763 UPC 04547452854257

### Details

Industry-leading connection reliability with insulation-displacement connector (IDC) technology  
Easy and secure wire installation  
Space-saving design for efficient use of cable junction and panel space  
Optional latch for added security in panel mount a

### Typical properties

Application: Wire-to-wire Connecting  
Connection Type: IDC  
Connector Style: Receptacle  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Thermoplastic  
Maximum Conductor Size (Imperial): 20 AWG, 24 AWG  
Maximum Conductor Size (Metric): 0.25 mm<sup>2</sup>, 0.5 mm<sup>2</sup>  
Minimum Conductor Size (Imperial): 24 AWG, 26 AWG  
Minimum Conductor Size (Metric): 0.14 mm<sup>2</sup>, 0.25 mm<sup>2</sup>  
Mounting Type: Wiremount  
Number of Contact Rows: 1  
Number of Contacts: 3 , 4  
Pitch (Imperial): 0.08 in  
Pitch (Metric): 2 mm  
Product Color: Black, Blue, Gray, Green, Orange, Red, Yellow  
Specifications Met: China RoHS, RoHS 2011/65/EU  
Tech Sheet Number: TS-2234  
Termination Method: IDC  
eClass 14 Classification Group: 27460202

## 3M™ Mini Delta Ribbon (MDR) 101XX-900AXX 101 Series

3M ID B00036876 UPC 04547452489831

### Details

Wiper-on-wiper contact for reliable repetitive plugging  
Solder tails require no special tooling  
Contacts: 26, 50, 68, and 100  
See Regulatory Information Appendix (last page of Tech Data Sheet) for chemical compliance information  
For more information r

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Plug  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin, 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm, 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Glass Filled Polyester (PBT) & LCP  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin, 8 µin  
Mating Contact Finish Thickness (Metric): 0.2 µm, 0.76 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 26 , 50 , 68 , 100  
PCB Mounting Style: Straddle Mount  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Boardmount, Electronic Devices  
Shell Material: Steel  
Shell Plating: Nickel  
Tech Sheet Number: TS-0698  
Termination Method: Solder  
eClass 14 Classification Group: 27440307

## 3M™ D Sub Socket 8300 Series

3M Product Number 8300 Series 3M ID B00037005 UPC 00638060825167

### Details

- Available with either open- or closed-end cover
- Available in preassembled open cover
- Improved metal strain relief that hooks directly to metal shell
- Low-profile design
- Four mounting options

### Typical properties

- Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating
- Connector Style: Receptacle
- Contact Base Material: Copper Alloy
- Contact Underplating Material: Nickel
- Contact Underplating Thickness (Imperial):  $\geq 50 \mu\text{in}$
- Contact Underplating Thickness (Metric):  $\geq 2 \mu\text{m}$
- Current Rating: 1.0 A
- Factory ISO Certification: No ISO Certification information available
- Features: PCB Retention
- Insulation Material: Glass Filled Polyester (PBT)
- Markings: 3M Logo & Contact Position Numbers
- Mating Contact Finish Material: Gold
- Mating Contact Finish Thickness (Imperial):  $30 \mu\text{in}$
- Mating Contact Finish Thickness (Metric):  $0.76 \mu\text{m}$
- Maximum Conductor Size (Imperial): 26 AWG (Solid & Stranded)
- Maximum Operating Temperature (Celsius):  $105 \text{ }^\circ\text{C}$
- Maximum Operating Temperature (Fahrenheit):  $221 \text{ }^\circ\text{F}$
- Minimum Conductor Size (Imperial): 28 AWG (Solid & Stranded)
- Minimum Operating Temperature (Celsius):  $-55 \text{ }^\circ\text{C}$
- Minimum Operating Temperature (Fahrenheit):  $-67 \text{ }^\circ\text{F}$
- Mounting Type: Wiremount
- Number of Contact Rows: 2
- Number of Contacts: 9 , 15 , 25 , 37
- Pitch (Imperial): 0.109 in
- Pitch (Metric): 2.76 mm
- Product Usage: Electronic Devices, Wiremount
- Shell Material: Steel
- Shell Plating: Tin
- Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0
- Tech Sheet Number: TS-0235
- Termination Method: IDC
- eClass 14 Classification Group: 27440307

## 3M™ Mini Delta Ribbon (MDR) 102XX-1210PE Series

3M ID B00037027 UPC 04548623935102

### Details

Wiper-on-wiper contact for reliable repetitive plugging  
Ultra-low signal skew for high data rate transmission  
Interface latch design for connection stability  
MDR digital LCD interface as a 20 or 26 contact connector  
Contacts: 14, 20, 26, 40 and 50  
Se

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin  
Contact Underplating Thickness (Metric): 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: PCB Retention  
Insulation Material: Glass Reinforced Polyester (PCT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 20 µin  
Mating Contact Finish Thickness (Metric): 0.5 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 14 , 20 , 26 , 40 , 50  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Surface Mount  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Boardmount, Electronic Devices  
Shell Material: Steel  
Shell Plating: Nickel  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0755  
Termination Method: Solder  
eClass 14 Classification Group: 27440307

## **3M™ D Sub EMI Junction Shell, 3357-65XX-XX**

3M ID B00037102 UPC 00051111645154

### **Details**

Protection from EMI/ESD

Easy assembly reduces time and labor to ensure low applied cost

Light weight, compact design

Strain relief compensates for multiple cable diameters

Jackscrews provide positive retention

RoHS compliant

For more information, re

### **Typical properties**

Compatible Cable Shape: Round

Compatible Number of Contacts: 9 , 15 , 25 , 37

Factory ISO Certification: No ISO Certification information available

For Use With: D Sub Connectors

Number of Cable Entries: 1

Product Color: Silver

Product Type: Junction Shell

Tech Sheet Number: TS-0032

eClass 14 Classification Group: 27440213

## 3M™ Mini Delta Ribbon (MDR) 10226-1A10PE Series

3M ID B00037613 UPC 04547452262021

### Details

Wiper-on-wiper contact for reliable repetitive plugging  
Ultra-low signal skew for high data rate transmission  
Interface latch design for connection stability  
MDR digital LCD interface  
Contacts: 26  
See Regulatory Information Appendix (last page of Tec

### Typical properties

Application: Connection Stability, EMI Shielding, High-density Mounting, Repetitive Mating & Unmating  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin, 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm, 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: PCB Retention  
Insulation Material: Glass Reinforced Polyester (PCT)  
Markings: 3M Logo and Part Number  
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 8 µin, 20 µin  
Mating Contact Finish Thickness (Metric): 0.5 µm, 0.2 µm  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Mounting Type: Boardmount  
Number of Contact Rows: 2  
Number of Contacts: 26  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Surface Mount  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Usage: Boardmount, Electronic Devices  
Shell Material: Steel  
Shell Plating: Nickel  
Specifications Met: China RoHS  
Tech Sheet Number: TS-0874  
Termination Method: Solder  
eClass 14 Classification Group: 27440307

## **3M™ Pak 10 Media Socket, PK10M Series**

3M ID B00037659

### **Details**

- 1 mm pitch connector system
- Four mating heights available
- Available power contacts rated at 5A
- Available frame ground connection through surface mount retention clips
- Keyed design helps prevent mating misalignment
- See Regulatory Information Appendix

### **Typical properties**

- Application: Board-to-board Connecting
- Tech Sheet Number: TS-1152
- eClass 14 Classification Group: 27460201



## **3M™ Camera Link Industrial Camera Cable Assembly, MDR, 14x26 Series**

3M Product Number 14x26 Series 3M ID B5005510001 UPC 04519001591074

### **Details**

MDR-to-MDR assembly for camera-to-frame-grabber communications  
Camera side MDR plug connector is available in a variety of configurations for space savings and design flexibility  
Base-medium and full configurations are available  
Available in PoCL and n

### **Typical properties**

Application: High-flexibility Connecting, High-speed Connecting, High-speed Data Transmission

Brands: 3M™

Cable Length (Imperial): 1.64 ft, 1.969 ft, 3.281 ft, 4.921 ft, 6.562 ft, 8.202 ft, 9.843 ft, 11.483 ft, 13.123 ft, 14.764 ft, 16.404 ft, 22.966 ft, 32.808 ft, 49.213 ft

Cable Length (Metric): 0.5 m, 0.6 m, 1 m, 1.5 m, 2 m, 2.5 m, 3 m, 3.5 m, 4 m, 4.5 m, 5 m, 7 m, 10 m, 15 m

Cable Outside Diameter (Imperial): 0.272 in, 0.354 in

Cable Outside Diameter (Metric): 6.9 mm, 9 mm

Connector Style (End A): Plug

Connector Style (End B): Plug

Connector Type (End A): MDR

Connector Type (End B): MDR

Factory ISO Certification: No ISO Certification information available

Product Color: Beige, Gray

Product Series: 14x26

Product Usage: Cameras, Control Units, Frame Grabbers

Protocol: CameraLink

Tech Sheet Number: TS-2801

## **2688A UCT 5.4MMx300M 2D PACK ASE NB**

3M ID 7100002830

### **Details**

Transparent polypropylene film tape with layer of static dissipative coating on the component side and a synthetic, room temperature pressure sensitive adhesive strip along each edge

Features an innovative peeling design with repeatable tracks and score

### **Typical properties**

Adhesive Features: Pressure-sensitive

ESD Material Type: Static Dissipative

Elongation: 150 %

Factory ISO Certification: No ISO Certification information available

Haze Percentage: 2.4 %

Product Usage: Bare Die, Discrete Components, ICs, LEDs, Passive Components, WLCSP

eClass 14 Classification Group: 27140708

### **Dimensions and Classifications**

Overall Length (Imperial): 328.084 yd

Overall Length (Metric): 300 m

Overall Thickness (Imperial): 0.002 in

Overall Thickness (Metric): 0.048 mm

Overall Width (Imperial): 0.213 in

Overall Width (Metric): 5.4 mm

# 3M™ Bumpon™ Protective Products SJ5306

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20), Synthetic Rubber (R25)  
Application: Headlight Spacer, Surface Protection  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: 80# Super Calendered Kraft, Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ5306  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.375 in  
Overall Diameter (Metric): 9.5 mm  
Overall Height (Imperial): 0.15 in  
Overall Height (Metric): 3.8 mm  
Overall Length (Imperial): 0.375 in  
Overall Length (Metric): 9.5 mm  
Overall Width (Imperial): 0.15 in  
Overall Width (Metric): 3.8 mm

# 3M™ Lapping Film Sheet 261X

## Details

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls  
Get a uniform finish on a number of substrates

## Typical properties

Abrasive Material: Aluminum Oxide  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 0.3 µm, 12 µm, 3 µm, 30 µm, 5 µm, 9 µm  
Product Form: Sheet  
Product Series: 261X

## Dimensions and Classifications

Overall Length (Imperial): 11 in  
Overall Length (Metric): 279.4 mm  
Overall Width (Imperial): 8.5 in  
Overall Width (Metric): 215.9 mm

## **3M™ 4-Wall Tripolarized Header 810 Series**

3M Product Number 810 Series 3M ID B00050191 UPC 50076308090109

### **Details**

Tripolarization to mating socket  
.050 in. x .100 in. halves the connector length  
Latch and eject for rugged high-performance applications  
Available for thru-hole or surface-mount attachment  
High-temperature plastic  
Four-wall shroud provides contact p

### **Typical properties**

Application: Wire-to-board Connecting  
Connector Style: Header  
Factory ISO Certification: No ISO Certification information available  
Features: Tripolarized  
Number of Contacts: 20 , 26 , 36 , 40 , 50 , 60 , 68 , 80 , 100  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Product Series: 810  
Shroud Style: 4 Wall  
Tech Sheet Number: TS-0253  
eClass 14 Classification Group: 27460201

# 3M™ Four-Wall Header Straight and Right Angle 3000 Series

3M Product Number 3000 Series 3M ID B00050995 UPC 08887862426948

## Details

Latch/eject system for secure mating and easy maintenance  
Plastic latches with metal roll pins help ensure reliable connection  
30 gold-plated contacts for optimal conductivity and durability  
Glass-filled PCT plastic insulator resists high temperatures

## Typical properties

Application: Wire-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Header, Plug  
Contact Base Material: Copper Alloy  
Current Rating: 1.75 A  
Factory ISO Certification: No ISO Certification information available  
Features: Mounting Flange  
Insulation Color: Black  
Insulation Height (Imperial): 0.34 in, 0.68 in  
Insulation Height (Metric): 8.64 mm, 17.27 mm  
Insulation Material: Glass Filled Polyester (PBT) or High Temperature (PCT)  
Latch/Ejector Type: Latch Lock/Eject Hooks, Latch Lock/Eject Hooks (Long), Latch Lock/Eject Hooks (Short), Push-in/Pull-out  
Mating Contact Finish Material: Gold, Gold Flash  
Mating Contact Finish Thickness (Imperial): <10 µin  
Mating Contact Finish Thickness (Metric): <0.25 µm  
Mating Option: Board to Board, Board to Cable, Board to Wire  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 10 , 14 , 16 , 20 , 24 , 26 , 30 , 34 , 40 , 50 , 60 , 64 , 68  
PCB Mounting Angle: Right Angle, Straight  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Post Contact Finish Material: Matte Tin  
Product Series: 3000  
Shroud Style: 4 Wall  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-0772  
Voltage Rating: 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

# 3M™ Fluorinert™ Electronic Liquid FC-43

## Details

- Thermal stability
- Chemical stability
- Wide liquid range
- Non-conductive
- Narrow boiling range
- Compatibility

## Typical properties

- Application: Electronic Testing, Heat Transfer
- Boiling Point (Celsius): 174 °C
- Boiling Point (Fahrenheit): 345 °F
- Boiling Point Range: 150 °C - 200 °C
- Brands: Fluorinert™
- Compatibility: Metal, Plastic
- Density: 1.86 g/cm<sup>3</sup>
- Dielectric Strength Range: >40 kV
- Factory ISO Certification: No ISO Certification information available
- Fluorocarbon Solubility: Very High
- GWP (IPCC 2007): >5000 (100 yr ITH)
- GWP Range: High
- Hydrocarbon Solubility: Low
- Net Weight (Imperial): 11 lb, 44 lb
- Net Weight (Metric): 5 kg, 20 kg
- Plastic Elastomer Compatibility: Excellent
- Pour Point (Celsius): -50 °C
- Pour Point (Fahrenheit): -58 °F
- Product Series: FC-43
- Purity Grade: Standard
- Volume (Imperial): 0.75 gal, 3.25 gal
- Volume (Metric): 2.84 L, 12.303 L

## Dimensions and Classifications

- Overall Height (Imperial): 9.49 in, 14.33 in
- Overall Height (Metric): 24.1 cm, 36.4 cm
- Overall Length (Imperial): 7.52 in, 11.22 in
- Overall Length (Metric): 19.1 cm, 28.5 cm
- Overall Width (Imperial): 7.64 in, 11.22 in
- Overall Width (Metric): 194.056 mm, 284.988 mm

# **3M™ Static Dissipative Heat Activated Cover Tape 2675**

3M ID B5005037050

## **Details**

Two-sided coating for good antistatic performance  
Appropriate to use with different types of electronic components  
Works well on 3M™ Polycarbonate Carrier Tapes and some other types of carrier substrates  
480 m rolls are available in standard widths of

## **Typical properties**

Adhesive Features: Heat Activated  
ESD Material Type: Static Dissipative  
Product Usage: Discrete Components, ICs, LEDs, Passive Components, WLCSP  
eClass 14 Classification Group: 27140708



# **3M™ Bumpon™ Protective Products SJ5312**

3M ID B5005035189

## **Details**

- All 3M™ Bumpon™ Protective Products feature a urethane composition
- Easy application with 3M pressure-sensitive adhesives
- High skid-resistance
- Won't scratch or stain surfaces
- Reduces vibration and noise
- Will not crack or harden

## **Typical properties**

eClass 14 Classification Group: 23330803

# 3M™ Diamond Lapping Film Roll 661X

## Details

Most widely used diamond lapping film  
Fast cut, increased throughput  
Flatter surface and sharp edges  
Uniform finish  
Available in discs, sheets and rolls

## Typical properties

Abrasive Material: Diamond  
Attachment Type: Plain Back  
Backing Thickness (Imperial): 3 mil  
Backing Thickness (Metric): 0.076 mm  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 1 µm, 15 µm, 3 µm, 30 µm, 6 µm, 9 µm  
Product Form: Roll  
Product Series: 661X

## Dimensions and Classifications

Overall Length (Imperial): 50 ft, 150 ft  
Overall Length (Metric): 15.24 m, 45.72 m  
Overall Width (Imperial): 0.25 in, 0.375 in, 0.5 in, 1 in, 1.5 in, 2 in, 3 in, 4 in, 8 in  
Overall Width (Metric): 6.35 mm, 9.525 mm, 12.7 mm, 25.4 mm, 38.1 mm, 50.8 mm, 76.2 mm, 101.6 mm, 203.2 mm

# 3M™ Greenback Printed Circuit Board Tape 851

## Details

Polyester backing reduces stretch and recovery of tape associated with uneven stop-off line  
Thick adhesive coating reduces undercutting because adhesive blocks out solutions between fingers  
Specially designed adhesive that generally performs better when

## Typical properties

Adhesive Type: Silicone/Rubber  
Backing (Carrier) Material: Polyester  
Factory ISO Certification: No ISO Certification information available  
Product Color: Green  
Total Tape Thickness without Liner (Imperial): 3.6 mil  
Total Tape Thickness without Liner (Metric): 0.091 mm

## Dimensions and Classifications

Overall Length (Imperial): 36 yd, 72 yd, 144 yd  
Overall Length (Metric): 32.918 m, 65.837 m, 66 m, 131.674 m  
Overall Width (Imperial): 0.75 in, 1 in, 1.5 in, 2 in, 3 in, 46 in  
Overall Width (Metric): 19 mm, 25.4 mm, 38.1 mm, 50.8 mm, 76.2 mm, 1168.4 mm

# 3M™ Fluorinert™ Electronic Liquid FC-770

## Details

Thermal stability  
Chemical stability  
Wide liquid range  
Non-conductive  
Narrow boiling range  
Compatibility

## Typical properties

Application: Electronic Testing, Heat Transfer  
Boiling Point (Celsius): 95 °C  
Boiling Point (Fahrenheit): 203 °F  
Boiling Point Range: 50 °C - 99 °C  
Compatibility: Metal, Plastic  
Density: 1.793 g/cm<sup>3</sup>  
Dielectric Strength Range: >40 kV  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: Very High  
GWP (IPCC 2007): >5000 (100 yr ITH)  
GWP Range: High  
Hydrocarbon Solubility: Low  
Maximum Use Temperature (Celsius): 99 °C  
Maximum Use Temperature (Fahrenheit): 210.2 °F  
Net Weight (Imperial): 0.74 lb, 11 lb, 14 lb, 44 lb, 750 lb  
Net Weight (Metric): 0.336 kg, 5 kg, 6.4 kg, 20 kg, 340 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -127 °C  
Pour Point (Fahrenheit): -196.6 °F  
Product Series: FC-770  
Purity Grade: Standard  
Volume (Imperial): 0.75 gal, 1 gal, 3.25 gal, 4 fl oz, 55 gal  
Volume (Metric): 2.839 L, 4.546 L, 12.303 L, 118.29 mL, 208.2 L

## Dimensions and Classifications

Overall Height (Imperial): 6.6 in, 9.49 in, 14.33 in, 34.7 in  
Overall Height (Metric): 16.76 cm, 24.1 cm, 36.4 cm, 88.1 cm  
Overall Length (Imperial): 4.2 in, 7.52 in, 11.22 in, 23.5 in  
Overall Length (Metric): 10.67 cm, 19.1 cm, 28.5 cm, 59.69 cm  
Overall Width (Imperial): 4.2 in, 7.64 in, 11.22 in, 23.5 in  
Overall Width (Metric): 106.68 mm, 194.056 mm, 284.988 mm, 596.9 mm

# 3M™ Novec™ 72DE Engineered Fluid

## Details

- Non-flammable
- Non-conductive
- Low toxicity
- Low Global Warming Potential (GWP)
- Zero ozone depletion potential
- Low surface tension penetrates tight spaces for improved cleaning

## Typical properties

Application: Cleaning, Deposition Solvent, Immersion Cleaning, Lubricant Deposition, Oxygen System Cleaning, Precision Cleaning, Solvent Cleaning, Vapour Degreasing

Boiling Point (Celsius): 44 °C  
Boiling Point (Fahrenheit): 111 °F

Brands: Novec™

Cleaning Strength: Heavy Duty

Compatible Fluorochemical: Fluorosilicone, Silicone

Density (Imperial): 79.284 lb/ft<sup>3</sup>  
Density (Metric): 1.27 g/cm<sup>3</sup>

Dielectric Strength Range: 20 kV - 35 kV

Factory ISO Certification: No ISO Certification information available

Fluorocarbon Solubility: Medium

GWP (IPCC 2007): 42 (100 yr ITH)

GWP Range: Very Low

Hydrocarbon Solubility: Very High

Maximum Use Temperature (Celsius): 150 °C  
Maximum Use Temperature (Fahrenheit): 302 °F

Net Weight (Imperial): 10 lb, 50 lb, 550 lb  
Net Weight (Metric): 4.54 kg, 22.68 kg, 249.48 kg

Plastic Elastomer Compatibility: Requires Customer Testing

Pour Point (Celsius): -38 °C  
Pour Point (Fahrenheit): -36 °F

Product Series: Novec 72DE

Product Usage: Deposition Solvent

Replacement For: CFCs, HCFCs, HFCs, TCE, nPB

Substrate: Silicone, Solvent-resistant Plastic

Volume (Imperial): 1 gal, 5 gal, 55 gal  
Volume (Metric): 3.79 L, 18.93 L, 208.2 L

eClass 14 Classification Group: 23060490

# 3M™ Novec™ Contact Cleaner, 312 g (11 oz), 6 Canisters/Case

3M ID 7000031944 UPC 00051135716991

## Details

- Fast drying, low order
- Non-flammable
- Excellent plastics compatibility
- Low toxicity
- Non-corrosive, non-conductive
- Contains no HCFCs, HFCs, or nPB
- Non-ozone depleting
- No rinsing and no residue
- Non-chlorinated

## Typical properties

Application: Aerosol Cleaning, Fiber Optic Connector Cleaning, Removing Dust/Particulates, Removing Fluorinated Oils/Greases, Removing Light Oils/Greases

Boiling Point (Celsius): 61 °C  
Boiling Point (Fahrenheit): 142 °F  
Brands: Novec™

Cleaning Performance (Fluorinated Oils): Excellent  
Cleaning Performance (Heavy Oils & Greases): Not Recommended  
Cleaning Performance (Hydraulic Fluid): Moderate  
Cleaning Performance (Lead-free Flux): Not Recommended  
Cleaning Performance (Light Oils): Moderate  
Cleaning Performance (No-clean Flux): Not Recommended  
Cleaning Performance (Particulate): Excellent  
Cleaning Performance (Rosin-based Flux): Not Recommended  
Cleaning Strength: Light Duty  
Density (Imperial): 94.891 lb/ft<sup>3</sup>  
Density (Metric): 1.52 g/cm<sup>3</sup>  
Dielectric Strength Range: >25 kV  
Factory ISO Certification: No ISO Certification information available  
GWP (IPCC 2007): 297 (100 yr ITH)  
GWP Range: Low  
Hydrocarbon Solubility: Medium  
Net Weight (Imperial): 11 oz  
Net Weight (Metric): 312 g  
Pour Point (Celsius): -135 °C  
Pour Point (Fahrenheit): -211 °F  
Product Series: Novec 7100  
Specifications Met: OTC VOC (Electrical Cleaner), RoHS 2011/65/EU, RoHS/WEEE  
Volume (Imperial): 11 fl oz  
Volume (Metric): 325 mL  
eClass 14 Classification Group: 23060490

# 3M™ Novec™ 1700 Electronic Grade Coating

## Details

- Easy application and processing
- Dries quickly without the need for thermal post-application curing
- May require little or no masking
- Easily removed for rework and repair
- Solvent components are VOC-exempt per US EPA and display low global warming potent

## Typical properties

- Application: Anti-stiction, Chemical Protection, Corrosion Protection, Moisture Protection, Protecting
- Application Method: Brush, Dip, Selective Dispense, Spray
- Brands: Novec™
- Coating Location: Electronic Device Components
- Coating Thickness Range (Metric): 0.1 µm - 0.2 µm
- Dissipation Factor: 0.002
- Factory ISO Certification: No ISO Certification information available
- Net Weight (Imperial): 12 lb, 40 lb
- Net Weight (Metric): 5.4 kg, 18.1 kg
- Polymer Type: Fluoroacrylate
- Product Series: Novec 1700
- Product Usage: Printed Circuit Boards
- Removability: Removable with 3M™ Novec™ Engineered Fluid 7100, Removable with 3M™ Novec™ Engineered Fluid 72DA, Removable with 3M™ Novec™ Engineered Fluid 73DE
- Specifications Met: RoHS 2011/65/EU
- Thermal Cure Time & Temperature: No Need to Cure
- UV Detectable: No
- Volume (Imperial): 0.831 gal, 3.5 gal
- Volume (Metric): 3.78 L, 13.2 L
- eClass 14 Classification Group: 27400113

# **3M™ High Shear Pressure Sensitive Cover Tape 2668**

Part Number 2668 3M ID B5005037046

## **Details**

Reworkable and bakeable

Adhesive zones help reduce the risk of adhesive contamination or contact with devices during shipping and storage

Suitable for components like WLCSP

Works well on 3M™ Polycarbonate Carrier Tapes

300 m or 500 m rolls are available

## **Typical properties**

Adhesive Features: Pressure-sensitive

ESD Material Type: Conductive

Product Usage: Discrete Components, ICs, LEDs, Passive Components, WLCSP

eClass 14 Classification Group: 27140708



# 3M™ Bumpon™ Protective Products SJ5076, Black, 3000/Case

3M ID 7000001953 UPC 00021200841972

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Small Electronic Device Feet, Small Kitchen Appliance Feet  
Availability: Stocked  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 2.0 - 2.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ5076  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.315 in  
Overall Diameter (Metric): 8 mm  
Overall Height (Imperial): 0.11 in  
Overall Height (Metric): 2.8 mm

## **3M™ Molded Assembly 1M Series**

3M Product Number 1M Series 3M ID B00035027 UPC 00076308102760

### **Details**

Excellent for robust long-term connections in high-vibration environments  
Excellent for use with or without high flex cables  
Molded one-piece design shields against elements  
Completed assemblies simplify parts management, virtually eliminates assembly

### **Typical properties**

Application: Wire-to-board Connecting  
Connector Style (End A): Plug, Receptacle  
Connector Style (End B): Plug, Receptacle  
Connector Type (End A): DIP, PCB, Socket  
Connector Type (End B): DIP, PCB, Socket  
Factory ISO Certification: No ISO Certification information available  
Number of Conductors: 6 , 8 , 10 , 12 , 14 , 16 , 18 , 20 , 24 , 26 , 30 , 34 , 40 , 50 , 60  
Pitch (Imperial): 0.079 in, 0.1 in  
Pitch (Metric): 2 mm, 2.54 mm  
Tech Sheet Number: TS-2754  
eClass 14 Classification Group: 27460202

## **3M™ Round, Shielded/Jacketed, Flat Cable, HF659 Series**

3M Product Number HF659 Series 3M ID B00039386 UPC 00051111948873

### **Details**

Low Smoke Zero Halogen (LSZH) Insulation for low toxicity of combustion gases in the event of a fire

Dual shielding provides 35 db average shielding

Continuous split/bond repeat allows for mass termination of IDC connectors

Primary cable is zippable fo

### **Typical properties**

Application: Signal Integrity

Factory ISO Certification: No ISO Certification information available

Halogen Free: Yes

Insulation Color: Gray

Insulation Material: Polyolefin

Jacket Color: Gray

Jacket Material: Polyolefin

Number of Conductors: 9 , 10 , 14 , 15 , 16 , 20 , 24 , 25 , 26 , 30 , 34 , 36 , 37 , 40 , 50 , 60 , 64

Number of Strands: 7

Pitch (Imperial): 0.025 in

Pitch (Metric): 0.64 mm

Specifications Met: RoHS 2011/65/EU, UL 758

Tech Sheet Number: TS-2335

Wire Size: 28 AWG

eClass 14 Classification Group: 27060106

# 3M™ Fluorinert™ Electronic Liquid FC-40

## Details

Thermal stability  
Chemical stability  
Wide liquid range  
Non-conductive  
Narrow boiling range  
Compatibility

## Typical properties

Application: Dielectric Bath, Electronic Testing, Gross Leak Testing, Heat Transfer, Semiconductor Cooling, Thermal Shock Testing  
Boiling Point (Celsius): 165 °C  
Boiling Point (Fahrenheit): 329 °F  
Boiling Point Range: 150 °C - 200 °C  
Brands: Fluorinert™  
Compatibility: Metal, Plastic  
Density: 1.85 g/cm<sup>3</sup>  
Dielectric Strength Range: >40 kV  
Factory ISO Certification: No ISO Certification information available  
Fluorocarbon Solubility: Very High  
GWP (IPCC 2007): >5000 (100 yr ITH)  
GWP Range: High  
Hydrocarbon Solubility: Low  
Maximum Use Temperature (Celsius): 165 °C  
Maximum Use Temperature (Fahrenheit): 329 °F  
Net Weight (Imperial): 11.02 lb, 44 lb, 750 lb  
Net Weight (Metric): 5 kg, 20 kg, 340 kg  
Plastic Elastomer Compatibility: Excellent  
Pour Point (Celsius): -57 °C  
Pour Point (Fahrenheit): -71 °F  
Product Series: FC-40  
Purity Grade: Standard  
Volume (Imperial): 0.75 gal, 3 gal, 3.25 gal  
Volume (Metric): 2.84 L, 12.303 L, 13.638 L

## Dimensions and Classifications

Overall Height (Imperial): 9.49 in, 14.33 in  
Overall Height (Metric): 24.1 cm, 36.4 cm  
Overall Length (Imperial): 7.52 in, 11.22 in  
Overall Length (Metric): 19.1 cm, 28.5 cm  
Overall Width (Imperial): 7.64 in, 11.22 in  
Overall Width (Metric): 194.056 mm, 284.988 mm

# 3M™ Clear Polycarbonate Carrier 2703

## Details

Non-conductive carrier tape for passive components like ceramic semiconductor chips

Splice free carrier tape features precisely formed pockets that effectively fit passive components per ANSI/EIA guidelines

Good resistance and impact strength protects c

## Typical properties

Application: Electronic Component Packaging

Factory ISO Certification: No ISO Certification information available

Material: Polycarbonate

Pocket Hole Pitch (Imperial): 0.157 in, 0.315 in, 0.472 in

Pocket Hole Pitch (Metric): 4 mm, 8 mm, 12 mm

Product Color: Transparent

Product Usage: LEDs, Passive Components

Surface Resistance:  $>1.0 \times 10^{12} \Omega$

eClass 14 Classification Group: 27140708

## Dimensions and Classifications

Overall Length (Imperial): 21.872 yd, 73.272 yd, 109.361 yd, 131.234 yd, 132.327 yd, 142.17 yd, 147.638 yd, 164.042 yd, 178.259 yd, 196.85 yd, 217.629 yd, 218.723 yd, 267.935 yd, 273.403 yd, 306.212 yd, 317.148 yd, 325.897 yd, 328.084 yd, 393.701 yd, 415.573 yd, 421.041 yd, 437.445 yd, 442.913 yd, 450.569 yd, 470.254 yd, 492.126 yd, 508.53 yd, 524.934 yd, 541.339 yd, 546.807 yd, 601.487 yd, 606.955 yd, 708.661 yd, 733.815 yd, 762.248 yd, 815.836 yd, 816.929 yd, 874.891 yd, 944.882 yd, 956.912 yd, 984.252 yd, 1093.613 yd, 1142.826 yd, 1143.92 yd

Overall Length (Metric): 20 m, 67 m, 100 m, 120 m, 121 m, 130 m, 135 m, 150 m, 163 m, 180 m, 199 m, 200 m, 245 m, 250 m, 280 m, 290 m, 298 m, 300 m, 360 m, 380 m, 385 m, 400 m, 405 m, 412 m, 430 m, 450 m, 465 m, 480 m, 495 m, 500 m, 550 m, 555 m, 648 m, 671 m, 697 m, 746 m, 747 m, 800 m, 864 m, 875 m, 900 m, 1000 m, 1045 m, 1046 m

Overall Width (Imperial): 0.315 in, 0.472 in, 0.63 in, 0.945 in

Overall Width (Metric): 8 mm, 12 mm, 16 mm, 24 mm, 32 mm

# 3M™ Wiremount Socket, w/ Optional Plastic or Metal Strain Relief, 3000 Series

3M Product Number 3000 Series 3M ID B10421909 UPC 00054007074205

## Details

Industry standard IDC socket  
Positive locking metal “J” clips provide high cover retention  
Mates with 3M headers, plugs and pin strips for quick connect/disconnect capability  
Open or closed end covers available  
Accepts flat cable or discrete wire

## Typical properties

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 100 µin  
Contact Underplating Thickness (Metric): 2.54 µm  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Features: Closed End, Feed Through, Polarizing Key, Strain Relief  
Insulation Color: Gray  
Insulation Material: Glass Filled Polyester (PBT)  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$   
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Maximum Conductor Size (Imperial): 26 AWG (Solid & Stranded)  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Conductor Size (Imperial): 28 AWG (Solid & Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 10 , 14 , 16 , 20 , 24 , 26 , 30 , 34 , 36 , 40 , 44 , 50 , 60  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Product Series: 3000  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0718  
Termination Method: IDC  
Withstanding Voltage: 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

## 3M™ IDC Ribbon Cable Socket, 891 Series

3M Product Number 891 Series 3M ID B00038599 UPC 08887862430037

### Details

High-quality cable assembly for easy and efficient wire mounting  
IDC enables hassle-free plug-and-play installation  
Secure and stable connections  
Preassembled design for time-saving convenience  
Seamless compatibility with other 3M cables and connector

### Typical properties

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Contact Base Material: Phosphor Bronze  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50 µin  
Contact Underplating Thickness (Metric): 1.27 µm  
Current Rating: 1.25 A  
Factory ISO Certification: No ISO Certification information available  
Features: Feed Through, Polarizing Key, Strain Relief  
Insulation Color: Gray  
Insulation Material: Glass Filled Polyester (PBT)  
Insulation Resistance:  $>1 \times 10^9 \Omega @ 500 \text{ VDC}$   
Mating Contact Finish Material: Gold  
Mating Contact Finish Thickness (Imperial): 30 µin  
Mating Contact Finish Thickness (Metric): 0.76 µm  
Maximum Conductor Size (Imperial): 26 AWG (Stranded)  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Conductor Size (Imperial): 28 AWG (Stranded)  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 8 , 10 , 14 , 16 , 20 , 24 , 26 , 30 , 34 , 36 , 40 , 44 , 50 , 60  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Product Series: 891  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0449  
Termination Method: IDC  
Withstanding Voltage: 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460202

## **3M™ Round, Jacketed, Flat Cable, 3759 Series**

3M Product Number 3759 Series 3M ID B00039389 UPC 00051111743898

### **Details**

Round construction permits efficient routing  
28 AWG wire on .050 inch centers, continuous split/bond allow for mass termination  
Available in continuous bond (non-split) wire for ease of cable fabrication  
Primary cable is zippable for branching or discr

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Halogen Free: No  
Insulation Color: Gray  
Insulation Material: PVC  
Jacket Color: Black  
Jacket Material: PVC  
Number of Conductors: 9 , 10 , 14 , 15 , 16 , 20 , 24 , 25 , 26 , 30 , 34 , 36 , 37 , 40 , 50 , 60 , 64  
Number of Strands: 7  
Pitch (Imperial): 0.025 in  
Pitch (Metric): 0.64 mm  
Specifications Met: NEC 725 (CL2), RoHS 2011/65/EU  
Tech Sheet Number: TS-0070  
Wire Size: 28 AWG  
eClass 14 Classification Group: 27060106



## 3M™ Chip Carrier Sockets, 8400 Series

3M ID B00046548 UPC 00051111663059

### Details

Accepts chip carriers conforming to JEDEC outline MO-047 for square and MO-052 for rectangular  
Compatible with automated loading equipment  
Open top design allows unrestricted air flow  
Molded slots for ease of device extraction  
Wave solder compatible.

### Typical properties

Contact Base Material: Copper Alloy  
Contact Underplating Material: Nickel  
Contact Underplating Thickness (Imperial): 50.0  $\mu$ in  
Contact Underplating Thickness (Metric): 1.27  $\mu$ m  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Frame Style: Closed  
Insulation Material: Glass Filled Polyester (PBT)  
Integrated Circuit Type: PLCC  
Mating Contact Finish Material: Matte Tin  
Mating Contact Finish Thickness (Imperial): 160  $\mu$ in  
Mating Contact Finish Thickness (Metric): 4.06  $\mu$ m  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -40 °C  
Minimum Operating Temperature (Fahrenheit): -40 °F  
Number of Contact Rows: 4  
Number of Contacts: 20 , 28 , 32 , 44 , 52 , 68 , 84  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Tech Sheet Number: TS-2148  
eClass 14 Classification Group: 27261708

## 3M™ Four-Wall Header 2500 Series

3M Product Number 2500 Series 3M ID B10098246 UPC 00054007260400

### Details

Low profile, space-saving design maximizes board space  
Variety of versions and options increases versatility and design flexibility  
Center slot polarization helps to prevent mis-insertions and reduce insertion time  
High-temperature insulator is excellent

### Typical properties

Application: Wire-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Header, Receptacle  
Contact Base Material: Copper Alloy  
Current Rating: 1.75 A  
Factory ISO Certification: No ISO Certification information available  
Features: Keying Slot, Pick & Place, Retention Clip  
Insulation Color: Black  
Insulation Height (Imperial): 0.338 in, 0.39 in  
Insulation Height (Metric): 8.59 mm, 9.91 mm  
Insulation Material: Glass Filled Polyester (PBT) or High Temperature (PCT)  
Latch/Ejector Type: Push-in/Pull-out  
Mating Contact Finish Material: Gold  
Mating Option: Board to Board, Board to Cable, Board to Wire  
Maximum Operating Temperature (Celsius): 105 °C  
Maximum Operating Temperature (Fahrenheit): 221 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 6 , 10 , 14 , 16 , 20 , 24 , 26 , 30 , 34 , 40 , 50 , 60 , 64  
PCB Mounting Angle: Right Angle, Straight  
PCB Mounting Style: Surface Mount, Through Hole  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Post Contact Finish Material: Matte Tin  
Product Series: 2500  
Shroud Style: 4 Wall  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-0770  
Voltage Rating: 1000 Vrms at Sea Level  
eClass 14 Classification Group: 27460201

# 3M™ Novec™ 71DE Engineered Fluid

## Details

- Non flammable
- Non-conductive
- Low toxicity
- Low Global Warming Potential (GWP)
- Zero ozone depletion potential
- Low surface tension penetrates tight spaces for improved cleaning

## Typical properties

Application: Cleaning, Degreasing, Deposition Solvent, Immersion Cleaning, Lubricant Deposition, Oxygen System Cleaning, Precision Cleaning, Solvent Cleaning, Vapour Degreasing

Boiling Point (Celsius): 41 °C  
Boiling Point (Fahrenheit): 106 °F

Brands: Novec™

Cleaning Strength: Medium Duty

Compatible Fluorochemical: Fluorosilicone, Silicone

Density (Imperial): 85.526 lb/ft<sup>3</sup>  
Density (Metric): 1.37 g/cm<sup>3</sup>

Dielectric Strength Range: <20 kV

Factory ISO Certification: No ISO Certification information available

Fluorocarbon Solubility: Medium

GWP (IPCC 2007): 149 (100 yr ITH)

GWP Range: Low

Hydrocarbon Solubility: High

Maximum Use Temperature (Celsius): 150 °C  
Maximum Use Temperature (Fahrenheit): 302 °F

Net Weight (Imperial): 11 lb, 55 lb, 550 lb  
Net Weight (Metric): 5 kg, 24.95 kg, 249.48 kg

Plastic Elastomer Compatibility: Requires Customer Testing

Pour Point (Celsius): -24 °C  
Pour Point (Fahrenheit): -11 °F

Product Series: Novec 71DE

Product Usage: Deposition Solvent

Replacement For: CFCs, HCFCs, HFCs, TCE, nPB

Substrate: Silicone, Solvent-resistant Plastic

Volume (Imperial): 1 gal, 5 gal, 55 gal  
Volume (Metric): 3.79 L, 18.93 L, 208.2 L

eClass 14 Classification Group: 23060490

# 3M™ Bumpon™ Protective Products SJ5003

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Garbage Compactor - Cushioning Stops, Small Electronic Device  
Cushioning Stops, Small Electronic Device Feet, Small Kitchen Appliance Feet  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 5.0 - 5.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Gray, White  
Product Form: Molded  
Product Series: SJ5003  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.400 - 0.499 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.44 in, 0.441 in  
Overall Diameter (Metric): 11.2 mm  
Overall Height (Imperial): 0.2 in  
Overall Height (Metric): 5.1 mm  
Overall Length (Imperial): 0.44 in  
Overall Length (Metric): 11.2 mm  
Overall Thickness (Imperial): 0.2 in  
Overall Width (Imperial): 0.2 in  
Overall Width (Metric): 5.1 mm

# 3M™ Bumpon™ Protective Products SJ5344 Clear, 2600/Case

3M ID 7000001952 UPC 00021200841941

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Heavier Appliances/Electronic Device Feet - Anti-Skid  
Availability: Stocked  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 4.0 - 4.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ5344  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.700 - 0.799 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.75 in  
Overall Diameter (Metric): 19.1 mm  
Overall Height (Imperial): 0.16 in  
Overall Height (Metric): 4.1 mm  
Overall Length (Imperial): 0.75 in  
Overall Length (Metric): 19.05 mm  
Overall Width (Imperial): 0.16 in  
Overall Width (Metric): 4.06 mm

## **3M™ Textool™ ZIP DIP Sockets**

3M ID B00035247 UPC 04519001043610

### **Details**

For DIPs with .100" (2.54 mm) lead spacing  
Pin counts for 14-64 leads  
Lever actuated zero insertion force mechanism  
Socket easily disassembles for repairability  
Socket contact point of .110" (2.79 mm) below top surface of socket  
For more Information

### **Typical properties**

Factory ISO Certification: No ISO Certification information available  
Frame Style: ZIP Socket  
Number of Positions: 14 , 16 , 18 , 20 , 22 , 24 , 28 , 32 , 39 , 40 , 42 , 48 , 64  
PCB Mounting Style: Through Hole  
Tech Sheet Number: TS-0360,TS-0365,TS-0453  
eClass 14 Classification Group: 27261708

# 3M™ Mini Delta Ribbon (MDR) Cable Assembly, 14520-EZAB-XXX-0EC

3M ID B00035629 UPC 00051135217092

## Details

Supports new VESA™/ DFP standard for 20 position MDR at host device  
LCD monitor assembly for PanelLink® /TMDS™ interface  
Each differential twin-ax pair has foil shield and drain wire  
Entire cable bundle is shielded with foil and braid for additional si

## Typical properties

Cable Length (Imperial): 3.281 ft, 6.562 in, 9.843 ft, 32.808 ft  
Cable Length (Metric): 1 m, 2 m, 3 m, 10 m  
Current Rating: 1.0 A  
Factory ISO Certification: No ISO Certification information available  
Jacket Material: PVC  
Number of Positions: 20  
Shell Material: ABS  
Specifications Met: AWM VW-1  
Tech Sheet Number: TS-0858  
eClass 14 Classification Group: 27060304

## 3M™ CP2 Press-Fit Header, CP2 Series

3M ID B00036515 UPC 00051119933840

### Details

25 mm basic system unit

38, 44 and 50 mm module

2 mm grid spacing allows for high signal density at low cost

“Eye of the Needle” compliant pin press-fit design reduces manufacturing time and cost

Three contact mating levels for Early Mate Late Break o

### Typical properties

Connector Style: Pin Header

Contact Base Material: Copper Alloy

Contact Resistance:  $\leq 20$  MilliOhms

Current Rating: 1.0 A

Electrical Load: 1.0 Ampere at +70 Degree C

Factory ISO Certification: No ISO Certification information available

Insulation Color: Beige

Insulation Flammability Rating: UL 94V-0

Insulation Material: Glass Filled Polyester (PBT)

Insulation Resistance:  $\geq 10,000$  MegaOhm

Mating Contact Finish Material: Gold

Mating Contact Finish Thickness (Imperial): 30  $\mu$ m

Mating Contact Finish Thickness (Metric): 0.76  $\mu$ m

Mating Force: 0.75 N/contact maximum

Mounting Type: Boardmount

Number of Contact Rows: 5 , 7

Number of Contacts: 95 , 154

Orientation: Vertical

PCB Mounting Style: Through Hole

PCB Thickness: 2.4-5.6 mm for 3.7 mm tails, 1.4-5.6 mm for 2.3 mm tails

Packaged Form: Bulk

Pitch (Imperial): 0.079 in

Pitch (Metric): 2 mm

Press-In Force:  $\leq 204$ N/pin on nominal hole diameter

Product Series: CP2

Recommended PCB Plated Through Hole:  $\varnothing 0.6 \pm 0.05$  mm

Retention Force:  $\geq 13.5$  N/pin on nominal hole diameter

Separable: Yes

Tech Sheet Number: TS-2263

Temperature Rating: -55 (Deg) C to +125 (Deg) C

Termination Method: Press Fit

Termination Style: Printed Circuit Board

Test Voltage: 750 VAC (rms)

Withdrawl Force:  $\geq 0.15$ N/PIN

Withstanding Voltage: 750 Vrms

eClass 14 Classification Group: 27460201



## 3M™ Mini-Clamp Socket 373 Series

3M Product Number 373 Series 3M ID B00036767 UPC 04519001007926

### Details

Simple installation process without creating material debris or waste, saving time and reducing the need for cleanup  
Labor-saving insulation-displacement connector (IDC) termination process for quick and efficient connections  
Compact design that saves v

### Typical properties

Application: Wire-to-wire Connecting  
Connection Type: IDC  
Connector Style: Receptacle  
Factory ISO Certification: No ISO Certification information available  
Insulation Material: Thermoplastic  
Maximum Conductor Size (Imperial): 20 AWG, 24 AWG  
Maximum Conductor Size (Metric): 0.3 mm<sup>2</sup>, 0.5 mm<sup>2</sup>  
Minimum Conductor Size (Imperial): 22 AWG, 26 AWG  
Minimum Conductor Size (Metric): 0.14 mm<sup>2</sup>, 0.3 mm<sup>2</sup>  
Mounting Type: Wiremount  
Number of Contact Rows: 1 , 2  
Number of Contacts: 3 , 4 , 6 , 8  
Pitch (Imperial): 0.08 in  
Pitch (Metric): 2 mm  
Product Color: Black, Blue, Gray, Green, Orange, Red, Yellow  
Specifications Met: China RoHS, RoHS 2011/65/EU  
Tech Sheet Number: TS-2094  
Termination Method: IDC  
eClass 14 Classification Group: 27460202

# 3M™ Mini Delta Ribbon (MDR) Junction Shell 103XX-52F0-008

3M ID B00037040 UPC 04901690093654

## Details

Design features durable two-piece glass reinforced polyester backshell with ground strap (compatible with 101XX-3000VE plug)  
Round straight exit  
Reliable metal strain relief clamp provides grounding for cable shield  
Quick release metal latching mechanism

## Typical properties

Compatible Cable Shape: Round  
Compatible Number of Contacts: 14 , 20 , 26 , 36 , 50  
Connector Style: Plug  
Factory ISO Certification: No ISO Certification information available  
Flammability: UL 94V-0  
For Use With: MDR Connectors  
Insulation Flammability Rating: UL 94V-0  
Markings: 3M Logo and Part Number, 3M Logo, Part Identification Number  
Mounting Type: Wiremount  
Number of Cable Entries: 1  
Number of Contact Rows: 2  
Product Color: Black  
Product Type: Junction Shell  
Shell Material: Glass Filled Polyester (PBT)  
Tech Sheet Number: TS-0670  
Temperature Rating: -20 Degree C to +85 Degree C  
eClass 14 Classification Group: 27440213

## **3M™ Round Shielded/Jacketed Discrete Wire Cable 3644X Series**

3M Product Number 3644X Series 3M ID B00039365 UPC 00051138819019

### **Details**

An effective cost/performance solution for LVDS digital 100-Ohm transmission applications where cable length is less than 4 meters and transmission speeds are under 700 MB/second

Durable polyolefin material provides insulation to the 28 AWG tinned stran

### **Typical properties**

Application: Crosstalk Reduction, EMI Interference Protection, High-speed Data Transmission, Impedance Control, Networking, Noise Immunity, RFI Interference Protection, Signal Balancing

Factory ISO Certification: No ISO Certification information available

Features: Chemical Resistance

Insulation Color: Multi-color

Number of Conductors: 14 , 16 , 20 , 24 , 26 , 30 , 36 , 40 , 50 , 68 , 80 , 100

Number of Pairs: 7 , 8 , 10 , 12 , 13 , 15 , 18 , 20 , 25 , 34 , 40 , 50

Number of Strands: 7

Product Usage: Actuators, Amplifiers, Box-to-box, Cameras, Computers, Control Modules, Controllers, IDC Connectors, Monitoring Equipment, Sensors

Tech Sheet Number: TS-0826

Wire Size: 28 AWG

eClass 14 Classification Group: 27061801

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft, 200 ft, 300 ft, 500 ft

Overall Length (Metric): 30.48 m, 60.96 m, 91.44 m, 152.4 m

## **3M™ Round Conductor Flat Cable, 8125 Series**

3M Product Number 8125 Series 3M ID B00039569 UPC 00054007620716

### **Details**

For applications requiring a higher current carrying capability  
Size 24 AWG tinned stranded copper wire provides flexibility and extended cable life  
Individually insulated conductors are laminated to a PVC backing which can be zipped apart for branching

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Dark Gray  
Insulation Material: PVC  
Number of Conductors: 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 12 , 13 , 14 , 15 , 16 , 17 , 20 , 26 , 30  
Number of Strands: 7  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Tech Sheet Number: TS-0259  
Wire Size: 24 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft, 500 ft  
Overall Length (Metric): 30.48 m, 152.4 m

## **3M™ Color Coded Flat Cable, 3811 Series**

3M Product Number 3811 Series 3M ID B00039638 UPC 00051115606458

### **Details**

Color-coded flat cable for easy wire identification during installation  
Flat cable design for flexibility and easy routing in tight spaces  
Stranded size 26 AWG wire construction for improved strength and durability  
PVC material for protection against w

### **Typical properties**

Application: Mass Termination  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Multi-color  
Insulation Material: PVC  
Number of Conductors: 9 , 10 , 14 , 15 , 16 , 18 , 20 , 24 , 25 , 26 , 30 , 34 , 37 ,  
40 , 50 , 60 , 64  
Number of Strands: 7  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Specifications Met: RoHS 2011/65/EU  
Tech Sheet Number: TS-0122  
Wire Size: 26 AWG  
eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft, 300 ft  
Overall Length (Metric): 30.48 m, 91.44 m

## **3M™ Shielded/Jacketed, Flat Cable, 3517 Series**

3M Product Number 3517 Series 3M ID B00039704 UPC 00051111766170

### **Details**

360° expanded copper shielding helps ensure signal integrity and protection against EMI

Made with size 28 AWG stranded wire for enhanced conductivity and durability  
PVC insulation provides excellent resistance against abrasion and environmental conditio

### **Typical properties**

Application: Signal Integrity

Cable Type: Shielded

Factory ISO Certification: No ISO Certification information available

Insulation Color: Gray

Insulation Material: PVC

Jacket Color: Black

Jacket Material: PVC

Number of Conductors: 9 , 10 , 14 , 15 , 16 , 20 , 24 , 25 , 26 , 30 , 34 , 36 , 37 , 40 , 50 , 60 , 64

Number of Strands: 7

Pitch (Imperial): 0.05 in

Pitch (Metric): 1.27 mm

Specifications Met: RoHS 2011/65/EU

Tech Sheet Number: TS-0069

Wire Size: 28 AWG

eClass 14 Classification Group: 27060106

### **Dimensions and Classifications**

Overall Length (Imperial): 100 ft

Overall Length (Metric): 30.48 m

## **3M™ Industrial M12 Wiremount Connector 3N304-D000-S08 BF, Silver, 50 ea/Case**

3M ID 7100001291 UPC 04548623879116

### **Details**

Compact size; female connector: 40 mm

Solder termination for AWG 20 to 24 wire cable compatibility

IP68 protection

See Regulatory Information Appendix link for chemical compliance information

For more information refer to Customer Drawing 78-5100-2558

### **Typical properties**

Brands: 3M™

Connector Style: Receptacle

Factory ISO Certification: No ISO Certification information available

Keyed: No

Mounting Type: Wiremount

Number of Contacts: 4

Tech Sheet Number: TS-2558

Termination Method: Solder Cup

eClass 14 Classification Group: 22560314

## 3M™ Pak 50 Boardmount Plug, P50 Series

3M ID B30000123 UPC 00051111739402

### Details

Contact design features two contact points and straight beam construction for connector reliability and low insertion force  
Retention clip secures connector for wave soldering eliminating additional hardware expenses  
Horizontal, parallel or vertical mat

### Typical properties

Application: Board-to-board Connecting  
Connector Shape: Rectangular  
Connector Style: Plug, Receptacle  
Contact Base Material: Phosphor Bronze  
Contact Termination Area Plating Material: Gold Flash  
Contact Underplating Material: Nickel  
Current Rating: 0.5 A  
Factory ISO Certification: No ISO Certification information available  
Features: Board Retention Feature, Mounting Flange, Retention Clip  
Insulation Color: Black  
Insulation Height (Imperial): 0.275 in, 0.421 in, 0.53 in  
Insulation Height (Metric): 6.99 mm, 10.7 mm, 13.45 mm  
Insulation Material: Glass Filled Nylon, Glass Filled Polyamide Nylon  
Insulation Resistance: > 1 x 10<sup>9</sup> Ohm at 500 VDC, >1x10<sup>9</sup> Ω @ 500 VDC  
Insulator Material: Glass Filled Nylon  
Latch/Ejector Type: Latch Holder  
Mating Contact Finish Material: Gold  
Mating Option: Board to Board, Board to Cable, Board to Wire  
Maximum Operating Temperature (Celsius): 85 °C  
Maximum Operating Temperature (Fahrenheit): 185 °F  
Minimum Operating Temperature (Celsius): -55 °C  
Minimum Operating Temperature (Fahrenheit): -67 °F  
Number of Contact Rows: 2  
Number of Contacts: 20 , 26 , 30 , 34 , 40 , 50 , 52 , 60 , 68 , 80 , 100 , 120 , 160  
PCB Mounting Angle: Right Angle  
PCB Mounting Style: Through Hole  
Pitch (Imperial): 0.05 in  
Pitch (Metric): 1.27 mm  
Post Contact Finish Material: Gold  
Process Temperature Rating: 260 °C (Wave Solder Compatible)  
Product Series: P50  
Shroud Style: 4 Wall  
Specifications Met: UL 94V-0  
Tech Sheet Number: TS-2046  
Voltage Rating: 650 Vrms at Sea Level  
eClass 14 Classification Group: 27460201



## **3M™ Pull Tab, 891 Series**

3M Product Number 891 Series 3M ID B10099041 UPC 00054007520153

### **Details**

Optional pull tabs allow for efficient unplugging of 3M™ IDC Ribbon Cable  
Sockets, 891 Series from compatible boardmount headers  
Simple and convenient solution for unplugging wiremount sockets  
White polyester is durable and computer imprintable  
Rolls

### **Typical properties**

Application: Wire-to-board Connecting  
Compatible Wire Type: Ribbon Cable  
Connector Style: Receptacle  
Factory ISO Certification: No ISO Certification information available  
Insulation Color: Gray  
Insulation Material: Glass Filled Polyester (PBT)  
Pitch (Imperial): 0.1 in  
Pitch (Metric): 2.54 mm  
Product Series: 891  
Specifications Met: China RoHS, RoHS 2011/65/EU, UL 94V-0  
Tech Sheet Number: TS-0496  
Termination Method: IDC  
eClass 14 Classification Group: 27460202

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 216-5205-01

3M ID 7010395454 UPC 00051115602115

## Details

- Open-top design
- Accommodates 0.5 mm pitches
- Thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information refer to Customer Drawing 78-5100-2518-8

## Typical properties

- Brands: Textool™
- Factory ISO Certification: No ISO Certification information available
- Tech Sheet Number: TS-2518
- eClass 14 Classification Group: 27261708

# 3M™ Textool™ Open-Top Sockets for QFN Applications, 288-4205-01

3M ID 7010318882 UPC 00051115601996

## Details

- Open-top design
- Accommodates 0.4 mm pitches
- No thermal pin
- Vertical actuation
- Compatible with most robotic handlers
- Easy manual operation
- For more information, refer to Customer Drawing 78-5100-2464-5

## Typical properties

- Brands: Textool™
- Factory ISO Certification: No ISO Certification information available
- Tech Sheet Number: TS-2464
- eClass 14 Classification Group: 27261708

# 3M™ Lapping Film Sheet 461X

## Details

Tight particle distribution  
Consistent cut rate, finish and life  
Available in discs, sheets and rolls  
Available in a variety of micron grades (5.0, 9.0, 15.0, and 30.0)

## Typical properties

Abrasive Material: Silicon Carbide  
Application: Flat Lapping, Polishing, Superfinishing  
Attachment Type: Plain Back  
Factory ISO Certification: No ISO Certification information available  
Micron Grade: 15.00 µm, 30 µm, 5 µm, 9 µm  
Polishing Process: Step 1: De-Nub/Epoxy Removal, Step 1b: Cut Angle  
Product Color: Gray  
Product Form: Roll, Sheet  
Product Series: 461X  
Product Usage: Ceramic Fiber Optic Connectors, Fiber Optic Connectors, Optical  
Substrate: Ceramic, Glass, High-hardness Metal, Metal, Plastic, Silicon Carbide

## Dimensions and Classifications

Overall Length (Imperial): 11 in, 150 ft  
Overall Length (Metric): 45.72 m, 279.4 mm  
Overall Width (Imperial): 4 in, 8.5 in  
Overall Width (Metric): 101.6 mm, 215.9 mm

## **3M™ Bumpon™ Protective Products SJ5017**

### **Details**

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

### **Typical properties**

Adhesive Type: Natural Rubber (R30)  
Application: Trunk/Rear Lift Glass Cushioning Stop  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.300 - 0.399 in  
Height-Thickness Range (Metric): 9.0 - 9.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Gray, White  
Product Form: Molded  
Product Series: SJ5017  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.700 - 0.799 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

### **Dimensions and Classifications**

Overall Diameter (Imperial): 0 in, 0.748 in, 0.75 in  
Overall Diameter (Metric): 0 mm, 19 mm, 19.1 mm  
Overall Height (Imperial): 0 in, 0.378 in, 0.38 in  
Overall Height (Metric): 0 mm, 9.6 mm  
Overall Length (Imperial): 0 in, 0.75 in  
Overall Length (Metric): 0 mm, 19.1 mm  
Overall Width (Imperial): 0 in, 0.38 in  
Overall Width (Metric): 0 mm, 9.7 mm

# 3M™ Bumpon™ Protective Products SJ5317 Clear, 1000/Case

3M ID 7000051965 UPC 00021200238734

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Custom  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.300 - 0.399 in  
Height-Thickness Range (Metric): 9.0 - 9.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Transparent  
Product Form: Molded  
Product Series: SJ5317  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.700 - 0.799 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.75 in  
Overall Diameter (Metric): 19.1 mm  
Overall Height (Imperial): 0.38 in  
Overall Height (Metric): 9.6 mm  
Overall Length (Imperial): 0.75 in  
Overall Length (Metric): 19.1 mm  
Overall Width (Imperial): 0.38 in  
Overall Width (Metric): 9.7 mm

# 3M™ Bumpon™ Protective Products SJ5705SBCC, Black, 1000/Case

3M ID 7000029585 UPC 00021200184840

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Natural Rubber (R30)  
Application: Dampen Noise/Reduce Vibration  
Availability: Stocked  
Backing Material: Polyurethane  
Base Width: 1.25 in  
Base Width (Metric): 32.4 mm  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.200 - 0.299 in  
Height-Thickness Range (Metric): 6.0 - 6.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Molded  
Product Series: SJ5705SBCC  
Product Type: Bumper  
Shape: Square-Tapered w/ Flat Top  
Width-Diameter Range: 1.00 - 1.99 in  
Width-Diameter Range (Metric): 30.0 - 39.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Height (Imperial): 0.25 in  
Overall Height (Metric): 6.35 mm  
Overall Length (Imperial): 1.275 in  
Overall Length (Metric): 32.39 mm  
Overall Width (Imperial): 1.275 in  
Overall Width (Metric): 32.39 mm

# 3M™ Bumpon™ Resilient Rollstock SJ6032

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Cushioning Spacer, Cushioning Stop, Gasketing, Protective Non-Skid Feet, Surface Protection  
Availability: Make to Order, Stocked  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.001 - 0.099 in  
Height-Thickness Range (Metric): 0.1 - .99 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Rollstock  
Product Type: Rollstock  
Roll Width (Imperial): 4.5 in, 9 in  
Roll Width (Metric): 114 mm, 229 mm  
Shape: Rollstock  
Width-Diameter Range: 4.00 - 4.99 in, 9.00 - 9.99 in  
Width-Diameter Range (Metric): 100.0 - 199.9 mm, 200.0 - 299.0 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Length (Imperial): 72 yd  
Overall Length (Metric): 65.83 m, 65.84 m  
Overall Thickness (Imperial): 0.031 in, 0.032 in  
Overall Thickness (Metric): 0.8 mm  
Overall Width (Imperial): 4.5 in, 9 in  
Overall Width (Metric): 11.43 cm, 22.86 cm



# 3M™ Bumpon™ Protective Products SJ5402

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Acrylic (A20)  
Application: Small Electronic Device Cushioning Stops, Small Electronic Device Feet  
Availability: Make to Order  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 75 Shore M  
Height-Thickness Range: 0.001 - 0.099 in  
Height-Thickness Range (Metric): 2.0 - 2.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, White  
Product Form: Molded  
Product Series: SJ5402  
Product Type: Bumper  
Shape: Circular-Hemisphere  
Width-Diameter Range: 0.300 - 0.399 in  
Width-Diameter Range (Metric): 1.0 - 9.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Diameter (Imperial): 0.312 in  
Overall Diameter (Metric): 7.9 mm  
Overall Height (Imperial): 0.085 in  
Overall Height (Metric): 2.2 mm  
Overall Length (Imperial): 0.312 in  
Overall Length (Metric): 7.9 mm  
Overall Width (Imperial): 0.085 in  
Overall Width (Metric): 2.2 mm

## **3M™ Bumpon™ Protective Products SJ6112**

### **Details**

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

### **Typical properties**

Adhesive Type: Synthetic Rubber (R25)  
Application: Heavier Appliances/Electronic Device Feet - Anti-Skid  
Availability: Make to Order  
Backing Material: Polyurethane  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.100 - 0.199 in  
Height-Thickness Range (Metric): 3.0 - 3.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black, Gray  
Product Form: Molded  
Product Series: SJ6112  
Product Type: Bumper  
Shape: Cylindrical with Flat Top  
Width-Diameter Range: 0.500 - 0.599 in  
Width-Diameter Range (Metric): 10.0 - 19.9 mm  
eClass 14 Classification Group: 23330803

### **Dimensions and Classifications**

Overall Diameter (Imperial): 0.5 in  
Overall Diameter (Metric): 12.7 mm  
Overall Height (Imperial): 0.14 in  
Overall Height (Metric): 3.6 mm  
Overall Length (Imperial): 0.5 in  
Overall Length (Metric): 12.7 mm  
Overall Width (Imperial): 0.14 in  
Overall Width (Metric): 3.6 mm

# 3M™ Bumpon™ Resilient Rollstock SJ6212 Black R25FL, 4.5 in x 36 yds

3M ID 7010374103 UPC 00051115527302

## Details

All 3M™ Bumpon™ Protective Products feature a urethane composition  
Easy application with 3M pressure-sensitive adhesives  
High skid-resistance  
Won't scratch or stain surfaces  
Reduces vibration and noise  
Will not crack or harden

## Typical properties

Adhesive Type: Synthetic Rubber (R25)  
Application: Cushioning Spacer, Cushioning Stop, Gasketing, Sunroof/Moon roof  
Cushioning Spacer  
Availability: Make to Order  
Backing Material: Polyurethane  
Brands: Bumpon™  
Factory ISO Certification: No ISO Certification information available  
Hardness: 72 Shore M  
Height-Thickness Range: 0.001 - 0.099 in  
Height-Thickness Range (Metric): 1.0 - 1.9 mm  
Primary Liner: Translucent Polyester Film  
Product Color: Black  
Product Form: Rollstock  
Product Series: SJ6212  
Product Type: Rollstock  
Roll Width (Imperial): 4.5 in  
Roll Width (Metric): 114 mm  
Shape: Rollstock  
Width-Diameter Range: 4.00 - 4.99 in  
Width-Diameter Range (Metric): 100.0 - 199.9 mm  
eClass 14 Classification Group: 23330803

## Dimensions and Classifications

Overall Length (Imperial): 36 yd  
Overall Length (Metric): 32.91 m  
Overall Thickness (Imperial): 0.05 in  
Overall Thickness (Metric): 1.2 mm  
Overall Width (Imperial): 4.5 in  
Overall Width (Metric): 11.43 cm

# **3M™ Novec™ 1710 Electronic Grade Coating, 5.4 kg (12 lb), 1 Bottle/Case**

Part Number Novec 1710 3M ID 7100021385 UPC 00051138991043

## **Details**

Can be used as a concentrate for maintaining coating solids concentration in application baths or incorporated with resins or other liquids for a unique solution  
Easy application and processing – dries in seconds without the need for thermal post-curing

## **Typical properties**

Application: Anti-stiction, Chemical Protection, Corrosion Protection, Moisture Protection, Protecting

Application Method: Brush, Dip, Selective Dispense, Spray

Brands: Novec™

Coating Location: Electronic Device Components

Factory ISO Certification: No ISO Certification information available

Net Weight (Imperial): 12 lb

Net Weight (Metric): 5.4 kg

Polymer Type: Fluoroacrylate

Product Series: Novec 1710

Removability: Removable with 3M™ Novec™ Engineered Fluid 7100

Specifications Met: RoHS 2011/65/EU

Volume (Imperial): 0.831 gal

Volume (Metric): 3.78 L

eClass 14 Classification Group: 27400113

## По вопросам продаж и поддержки обращайтесь:

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Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Петрозаводск (8142)55-98-37  
Псков (8112)59-10-37  
Пермь (342)205-81-47

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Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Сургут (3462)77-98-35  
Сыктывкар (8212)25-95-17  
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Тверь (4822)63-31-35

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Уфа (347)229-48-12  
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