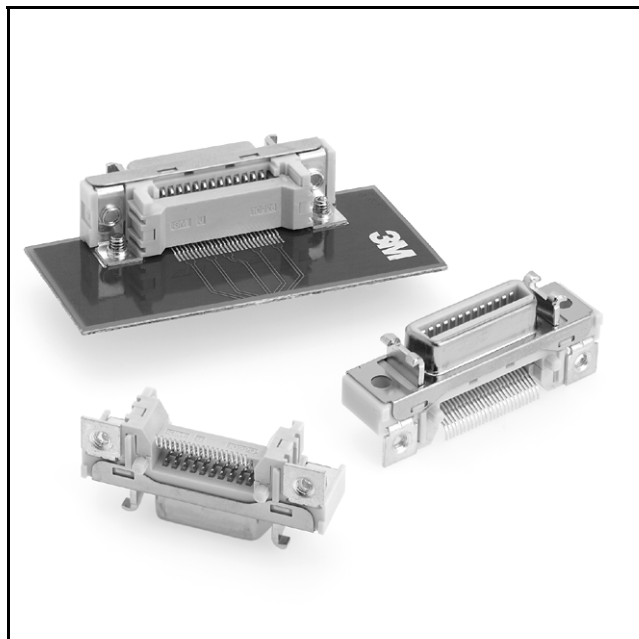


# 3M™ Mini D Ribbon (MDR) Connectors

.050" Surfacemount Right Angle Receptacle - Shielded

102 Series



- 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
- See Regulatory Information Appendix (RIA) for chemical compliance information

Date Modified: March 13, 2007

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Sheet 1 of 3

## Physical

**Insulation Material:** Glass Reinforced Polyester (PCT)

Flammability: UL 94V-0

Color: Beige

**Contact Material:** Copper Alloy

### Plating

Underplating: 80  $\mu$ " [ 2.0  $\mu$ m ] Nickel

Wiping Area: 20  $\mu$ " [ 0.50  $\mu$ m ] Min. Gold

Solder Tails: See ordering information

**Shroud and Latch Hook Material:** Steel

Plating: Nickel

**Grounding Flange Screw Lock Material:** Copper Alloy

Plating: Tin

**Marking:** 3M Logo and Part Number

## Electrical

**Current Rating:** 1 A

**Insulation Resistance:**  $> 5 \times 10^8 \Omega$  at 500 V<sub>DC</sub>

**Withstanding Voltage:** 500 V<sub>RMS</sub> for 1 Minute

## Environmental

**Temperature Rating:** -55°C to +105°C

**Process Rating:** 260°C (profile per J-STD-020C)

UL File No.: E68080

**3M**  
**Interconnect Solutions**  
<http://www.3M.com/interconnects/>

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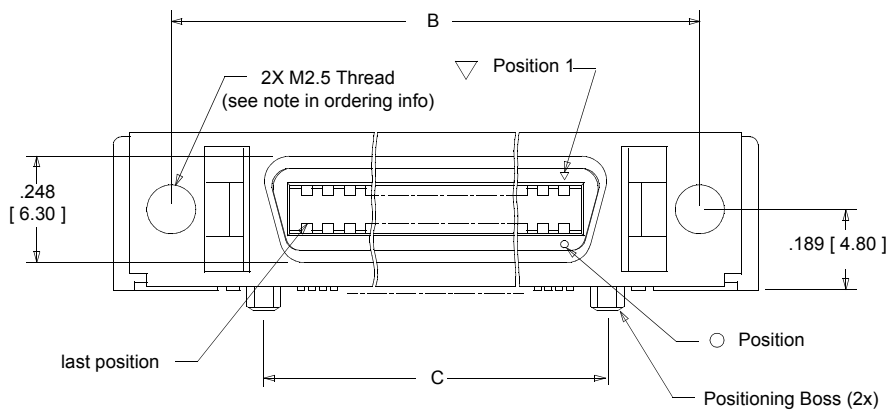
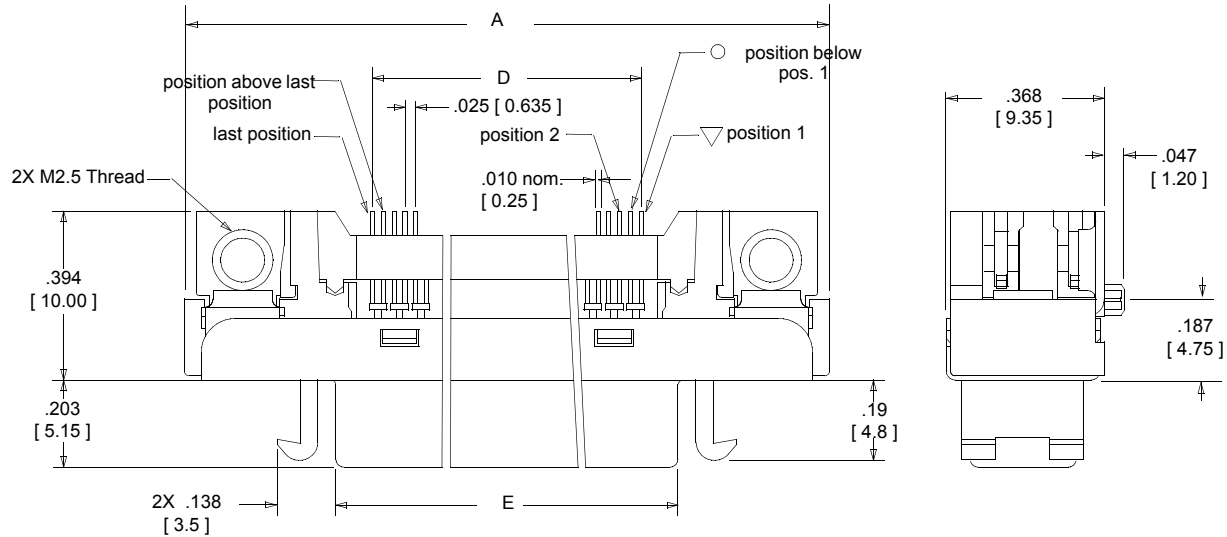
# 3M™ Mini D Ribbon (MDR) Connectors

.050" Surfacemount Right Angle Receptacle - Shielded

102 Series



	Dimensions				
	A±.008	B±.006	C±.006	D±.006	E±.006
14	1.16 [ 29.5 ]	.931 [ 23.64 ]	.500 [ 12.70 ]	.325 [ 8.26 ]	.496 [ 12.6 ]
20	1.32 [ 33.4 ]	1.081 [ 27.45 ]	.650 [ 16.51 ]	.475 [ 12.07 ]	.646 [ 16.4 ]
26	1.50 [ 38.2 ]	1.231 [ 31.26 ]	.800 [ 20.32 ]	.625 [ 15.88 ]	.795 [ 20.2 ]
40	1.85 [ 47.1 ]	1.581 [ 40.15 ]	1.150 [ 29.21 ]	.975 [ 24.77 ]	1.150 [ 29.2 ]
50	2.06 [ 52.4 ]	1.831 [ 46.50 ]	1.400 [ 35.56 ]	1.225 [ 31.12 ]	1.398 [ 35.5 ]



Inch [mm]			
Tolerance Unless Noted			
	.0	.00	.000
inch	±.1	±.01	±.005

[ ] Dimensions for Reference Only

## Ordering Information

**102XX-1210XE**

Contact Quantity  
(See Table)

Solder tail plating:  
V = tin-lead over Ni (RIA E3 & C2 apply)  
P = flash gold over Ni (RIA E1 & C1 apply)

Note: Use ( M2.5x8 mm ) screws to mount to panel with max. thickness of .079 [ 2.0 ].

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Sheet 2 of 3

# 3M™ Mini D Ribbon (MDR) Connectors

.050" Surfacemount Right Angle Receptacle - Shielded

102 Series

	Dimensions		
	A ± .002	B ± .002	C ± .002
14	.931 [ 23.64 ]	.500 [ 12.70 ]	.325 [ 8.26 ]
20	1.081 [ 27.45 ]	.650 [ 16.51 ]	.475 [ 12.07 ]
26	1.230 [ 31.26 ]	.800 [ 20.32 ]	.625 [ 15.88 ]
40	1.581 [ 40.15 ]	1.150 [ 29.21 ]	.975 [ 24.77 ]
50	1.831 [ 46.50 ]	1.400 [ 35.56 ]	1.225 [ 31.12 ]

### Recommended Board Layout

(viewed from connector side)

### Solder Pad and Contact Numbering Detail

(Pad numbers correspond to connector contact numbers shown on previous page)

**14 Pos.**

**20 Pos.**

**26 Pos.**

**40 Pos.**

**50 Pos.**

Contact Quantity	D	E
14	.78 [ 19.9 ]	.931 [ 23.64 ]
20	.94 [ 23.8 ]	1.081 [ 27.45 ]
26	1.09 [ 27.6 ]	1.231 [ 31.26 ]
40	1.44 [ 36.5 ]	1.581 [ 40.15 ]
50	1.69 [ 42.8 ]	1.830 [ 46.50 ]

### Recommended Panel Cut-out

Note: Panel thickness .079 [ 2.00 ] Max.

Notes:

1. Plated through mounting holes for .062" [ 1.57 ] board thickness.
2. Use mounting screws ( M2.5 ) to fasten to board.

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Sheet 3 of 3

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# Regulatory Information Appendix

## 3M Electronic Solutions Division/Interconnect

### EUROPE

#### Appendix E1: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

This product is RoHS Compliant 2005/95/EC.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

#### Appendix E2: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC

This product contains lead in the compliant pin area in excess of the maximum concentration value allowed but is compliant by exemption under EU Commission Decision 2005/747/EC.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

#### Appendix E3: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment as amended by Commission Decision 2005/618/EC.

This product contains lead in the solder tail area in excess of the maximum concentration value allowed.

Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

#### Appendix E4: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

This product contains decaBDE in the insulating material in excess of the maximum concentration value allowed but is compliant by exemption under EU Commission Decision 2005/17/EC.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

CHINA



Appendix C1: China RoHS

Electronic Industry Standard of the People's Republic of China, SJ/T11363-2006, Requirements for Concentration Limit for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or parts does not contain any of the following substances in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M's Regulatory Information Appendix, then 3M's entire liability and Buyer's exclusive remedy will be in accordance with the Warranty stated below.



Appendix C2: China RoHS

Electronic Industry Standard of the People's Republic of China, SJ/T11363-2006, Requirements for Concentration Limit for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or parts contain a substance, as detailed in the chart below, in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's best knowledge and belief based upon information provided by third party suppliers to 3M.

The numerical reference in the symbol above should not be construed as a representation regarding the product's life or extension of a product warranty. The product warranty is stated below. In the event any product is proven not to conform with 3M's Regulatory Information Appendix, then 3M's entire liability and Buyer's exclusive remedy will be in accordance with the product Warranty stated below.

产品中有毒有害物质或元素的名称及含量		Name and Content of Hazardous Substances or Elements					
部件名称 (Part or Component Name)	有毒有害物质或元素 (Hazardous Substances or Elements)						
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr <sup>6+</sup> )	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	

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