3M™ Mini D Ribbon (MDR) Connectors
.050” Boardmount Thru-Hole Right Angle Receptacle-Shielded 102 Series

- 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 as a 36 contact connector
- Contacts: 14, 20, 26, 36, 40, 50, 68, 80 and 100
- See Regulatory Information Appendix (RIA) for chemical compliance information

Physical

Insulation Material: Glass Reinforced Polyester (PCT)
Flammability: UL 94V-0
Color: Beige
Contact Material: Copper Alloy

Plating
Underplating: 80 μ” [2.0 μm] Nickel
Wiping Area: 30 μ” [0.76 μm] Min Gold
Solder Tail Plating: See ordering information

Body
Material: Zinc Alloy
Plating: Nickel

Ground Lock Material: Copper Alloy
Plating: Tin in combination with gold flash plated tail;
Tin-Lead in combination with tin-lead plated tail

Shroud & Latch Hook
Material: Steel
Plating: Nickel
Marking: 3M Logo & Part Number

Electrical

Current Rating: 1 A
Insulation Resistance: > 5 x 10^8 Ω at 500 V_{DC}
Withstanding Voltage: 500 V_{RMS} for 1 Minute

Environmental

Temperature Rating: -55°C to +105°C
Process Rating: 260°C (profile per J-STD-020C)

UL File No.: E68080

Date Modified: March 12, 2007
TS-0531-15
Sheet 1 of 3
### 3M™ Mini D Ribbon (MDR) Connectors
**.050” Boardmount Thru-Hole Right Angle Receptacle-Shielded**

#### Dimensions

<table>
<thead>
<tr>
<th>Contact Quantity</th>
<th>A [mm]</th>
<th>B [mm]</th>
<th>C [mm]</th>
<th>D [mm]</th>
<th>E [mm]</th>
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<tbody>
<tr>
<td>14</td>
<td>0.300</td>
<td>0.93</td>
<td>1.16</td>
<td>0.50</td>
<td>0.77</td>
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<tr>
<td>20</td>
<td>0.450</td>
<td>1.08</td>
<td>1.31</td>
<td>0.65</td>
<td>0.92</td>
</tr>
<tr>
<td>26</td>
<td>0.600</td>
<td>1.23</td>
<td>1.46</td>
<td>0.80</td>
<td>1.07</td>
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<tr>
<td>36</td>
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<td>1.48</td>
<td>1.71</td>
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<tr>
<td>40</td>
<td>0.950</td>
<td>1.58</td>
<td>1.81</td>
<td>1.15</td>
<td>1.42</td>
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<tr>
<td>50</td>
<td>1.200</td>
<td>1.83</td>
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<td>1.40</td>
<td>1.67</td>
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<tr>
<td>80</td>
<td>1.950</td>
<td>2.58</td>
<td>2.81</td>
<td>2.15</td>
<td>2.42</td>
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<tr>
<td>100</td>
<td>2.450</td>
<td>3.08</td>
<td>3.31</td>
<td>2.65</td>
<td>2.92</td>
</tr>
</tbody>
</table>

#### Ordering Information

**N102XX-52XXXC**

- **Contact Quantity**: Contact Number (See Table)
- **Tail Length**: 2 = .15 [3.8] (Standard) 3 = .11 [2.8] (Special Order)
- **Panel/Board Retention Features**
  - Contacts 14-40: 1 = M2.5 panel/M2.5 screw lock
  - B = M2.5 panel/ground lock
  - G = M2.5 panel/with .086 [2.2] ground lock (Special Order see note)
  - Contacts 50-100: 4 = 4-40 panel/4-40 screw lock
  - E = 4-40 panel/ground lock
  - G = M2.5 panel/with .086 [2.2] ground lock (Special Order see note)

**Note**: Option G is used with the 52X3 Tail length only.

**Solder tail plating**:
- V = Tin-Lead over nickel (RIA E3 & C2 apply)
- P = Gold flash over nickel (RIA E1 & C1 apply)

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3M is a trademark of 3M Company.

For technical, sales or ordering information call

800-225-5373
3M™ Mini D Ribbon (MDR) Connectors
.050” Boardmount Thru-Hole Right Angle Receptacle-Shielded

102 Series

Recommended Board Layout
(Viewed from Connector Side for 20, 36, 40, 68, 80 and 100 position only)

<table>
<thead>
<tr>
<th>Contact Quantity</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>20</td>
<td>0.450 [11.43]</td>
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<tr>
<td>36</td>
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<td>68</td>
<td>1.650 [41.91]</td>
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<tr>
<td>80</td>
<td>1.950 [49.53]</td>
</tr>
<tr>
<td>100</td>
<td>2.450 [62.23]</td>
</tr>
</tbody>
</table>

Recommended Board Layout
(For 14, 26 and 50 position only)

<table>
<thead>
<tr>
<th>Contact Quantity</th>
<th>Dimensions</th>
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</thead>
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<td>A</td>
</tr>
<tr>
<td>14</td>
<td>0.300 [7.62]</td>
</tr>
<tr>
<td>26</td>
<td>0.600 [15.24]</td>
</tr>
<tr>
<td>50</td>
<td>1.200 [30.48]</td>
</tr>
</tbody>
</table>

Recommended Panel Cut-out
Note: Panel thickness .079 [2.00] Max.

<table>
<thead>
<tr>
<th>Contact Quantity</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
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<td>C</td>
</tr>
<tr>
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<td>.78 [19.9]</td>
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<tr>
<td>20</td>
<td>.94 [23.8]</td>
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<tr>
<td>26</td>
<td>1.09 [27.6]</td>
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<tr>
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<tr>
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<td>1.44 [36.5]</td>
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<tr>
<td>50</td>
<td>1.69 [42.8]</td>
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<tr>
<td>68</td>
<td>2.13 [54.2]</td>
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<tr>
<td>80</td>
<td>2.44 [61.9]</td>
</tr>
<tr>
<td>100</td>
<td>2.94 [74.6]</td>
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</tbody>
</table>

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Sheet 3 of 3
Regulatory Information Appendix
3M Electronic Solutions Division/Interconnect

EUROPE

Appendix E1: European Union RoHS

**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

**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

**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

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.
Appendix C1: China RoHS

Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits 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 part 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 Limits 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 part does 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 an 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.

### Important Notice

All statements, technical information, and recommendations related to 3M’s products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M’s current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

### Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture for a period of one (1) year from the time of purchase. 3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M’s option, to replace or repair the 3M product or refund the purchase price of the 3M product. Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.

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