

# 3M™ Mini D Ribbon (MDR) Connectors

.050" Boardmount Compliant Pin Vertical Receptacle - Shielded

102 Series



- Wiper-on-wiper contact for reliable repetitive plugging
- Rugged die cast metal case construction
- Contacts: 14, 26, 36, 40, 50, 68 and 80
- RoHS\* compliant

Date Modified: March 21, 2005

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## Physical

### Insulation

Material: Glass Reinforced Polyester (PBT)  
Flammability: UL 94V-0  
Color: Black

### Contact

Material: Copper Alloy (C521)

### Plating

Underplating: 80 μ" (2.0 μm) Nickel - QQ-N-290, Class 2  
Wiping Area: 30 μ" (0.76 μm) Min Gold - MIL-G-45204, Type II, Grade C

### Body

Material: Zinc Alloy  
Plating: Nickel

### Shroud & Latch Hook

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

## Electrical

**Current Rating:** 1 A  
**Insulation Resistance:**  $> 5 \times 10^8 \Omega$  at 500 VDC  
**Withstanding Voltage:** 500 Vrms for 1 Minute

## Environmental

**Temperature Rating:** -20°C to +85°C

UL File No.: E68080

\*RoHS = Directive 2002/95/EC,  
Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment

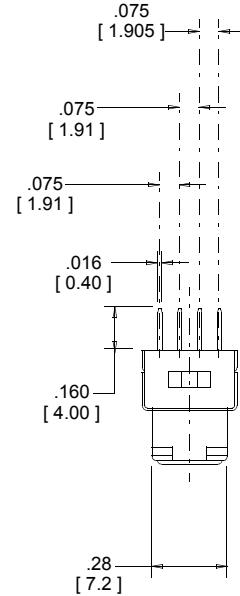
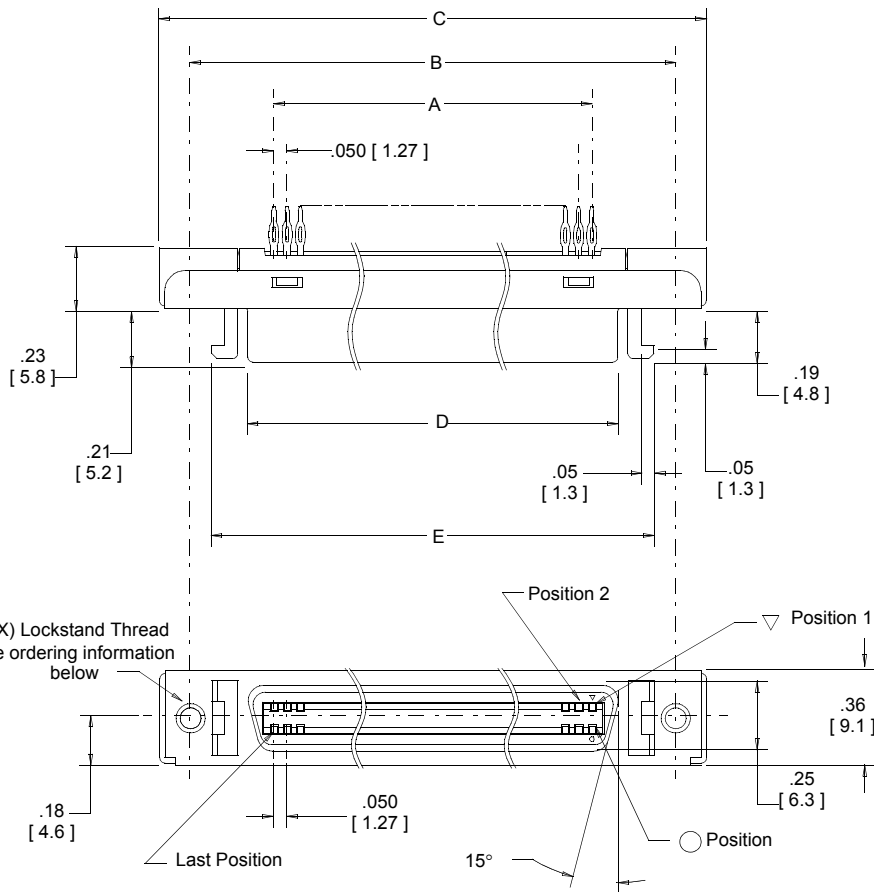
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Contact Quantity	Dimension				
	A	B	C	D	E
14	.300 [ 7.62 ]	.93 [ 23.6 ]	1.16 [ 29.5 ]	.50 [ 12.6 ]	.77 [ 19.5 ]
26	.600 [ 15.24 ]	1.23 [ 31.3 ]	1.46 [ 37.2 ]	.80 [ 20.2 ]	1.07 [ 27.2 ]
36	.850 [ 21.59 ]	1.48 [ 37.6 ]	1.71 [ 43.5 ]	1.05 [ 26.6 ]	1.32 [ 33.5 ]
40	.950 [ 24.13 ]	1.58 [ 40.2 ]	1.81 [ 46.1 ]	1.15 [ 29.1 ]	1.42 [ 36.1 ]
50	1.200 [ 30.48 ]	1.83 [ 46.5 ]	2.06 [ 52.4 ]	1.40 [ 35.5 ]	1.67 [ 42.4 ]
68	1.650 [ 41.91 ]	2.28 [ 57.9 ]	2.51 [ 63.8 ]	1.85 [ 46.9 ]	2.12 [ 53.8 ]
80	1.950 [ 49.53 ]	2.58 [ 65.6 ]	2.81 [ 71.5 ]	2.15 [ 54.5 ]	2.42 [ 61.5 ]



Tolerance Unless Noted			
	.0	.00	.000
inch	±.1	±.01	±.005

[ ] Dimensions for Reference Only

Note:  
1. Use mounting screws to PCB when using Junction Shells.

## Ordering Information

**102XX-R2XXS**

Contact Quantity  
(See Table)

PCB Press Fit Hole  
C = Cu/pre flux  
T = Solder plated

Lockstand Thread  
0 = M2.6 (Special order)  
1 = M2.5 (Standard)

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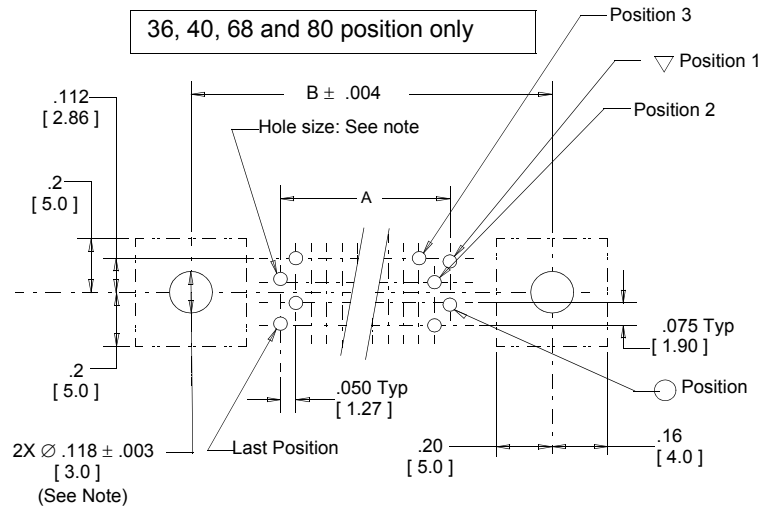
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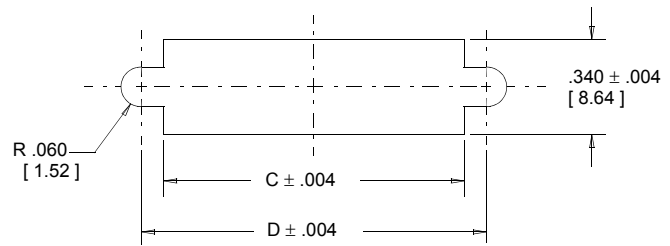
102 Series

Contact Quantity	Dimension	
	A	B
36	.850 [ 21.59 ]	1.481 [ 37.61 ]
40	.950 [ 24.13 ]	1.581 [ 40.15 ]
68	1.650 [ 41.91 ]	2.281 [ 57.93 ]
80	1.950 [ 49.53 ]	2.581 [ 65.55 ]

## Recommended Board Layout Viewed from Connector Side



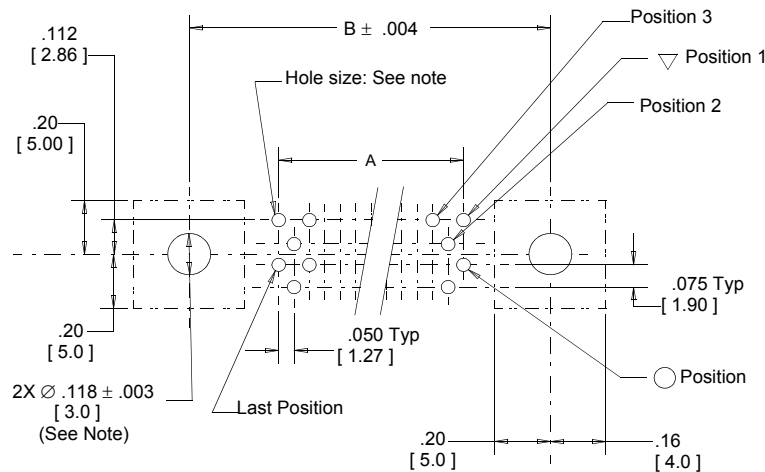
Contact Quantity	Dimension	
	A	B
14	.78 [ 20.0 ]	.93 [ 23.64 ]
26	1.09 [ 27.6 ]	1.23 [ 31.26 ]
36	1.33 [ 33.9 ]	1.48 [ 37.61 ]
40	1.44 [ 36.5 ]	1.58 [ 40.15 ]
50	1.69 [ 42.8 ]	1.83 [ 46.50 ]
68	2.13 [ 54.2 ]	2.28 [ 57.93 ]
80	2.44 [ 61.9 ]	2.58 [ 65.55 ]



## Recommended Panel Cut-Out

Note: Panel thickness .079 [ 2.00 ] Max.

14, 26, 50 pos only



Contact Quantity	A	B
14	.300 [ 7.62 ]	.931 [ 23.64 ]
26	.600 [ 15.24 ]	1.231 [ 31.26 ]
50	1.200 [ 30.48 ]	1.831 [ 46.50 ]

### Notes:

- Listed below are the PCB hole sizes and tolerances recommended for use with the 3M MDR Compliant Pin Vertical Receptacle. The insertion force is designed not to exceed 147N (33lbs) per pin

### Recommended Hole Size in Millimeters:

#### For Copper plus Pre-Flux Coat

##### Option 1

- Drilled Dia. 0.85 +0/-0.020mm
- Finished Dia. 0.68 to 0.79mm
- Cu Plating 0.025mm minimum

##### Option 2

- Drilled Dia 0.80 +0.025/-0.020mm
- Finished Dia 0.68 to 0.78mm
- Cu Plating 0.025mm minimum

#### For Copper and Solder Plate

##### Option 1

- Drilled Dia. 0.85 +0.03/-0.03mm
- Finished Dia. 0.65 to 0.81mm
- Tin Lead Plating 0.015mm maximum

##### Option 2

- Drilled Dia 0.80 +0.02/-0.02mm
- Finished Dia 0.68 to 0.81mm
- Cu Plating 0.015mm minimum

- Board thickness: .095 ± .010 to .125 ± .010

- Assembly Tooling:  
Stopper Block 10991-XX  
Press Block 10992-XX

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Interconnect Solutions

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