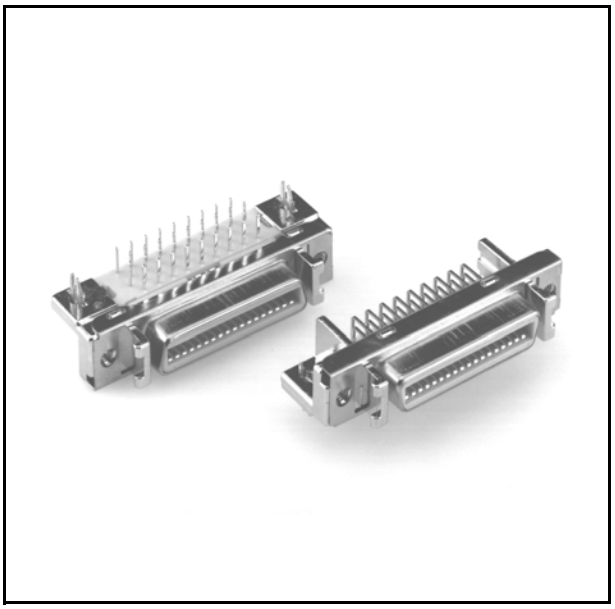
3M™ Mini D Ribbon (MDR) Connectors

.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

Date Modified: November 15, 2007

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:	Gold Flash over Nickel (RIA E1 & C1 apply)
Body	
Material:	Zinc Alloy
Plating:	Nickel
Ground Lock Material:	Copper Alloy
Plating:	Tin in combination with gold flash plated tail
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 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

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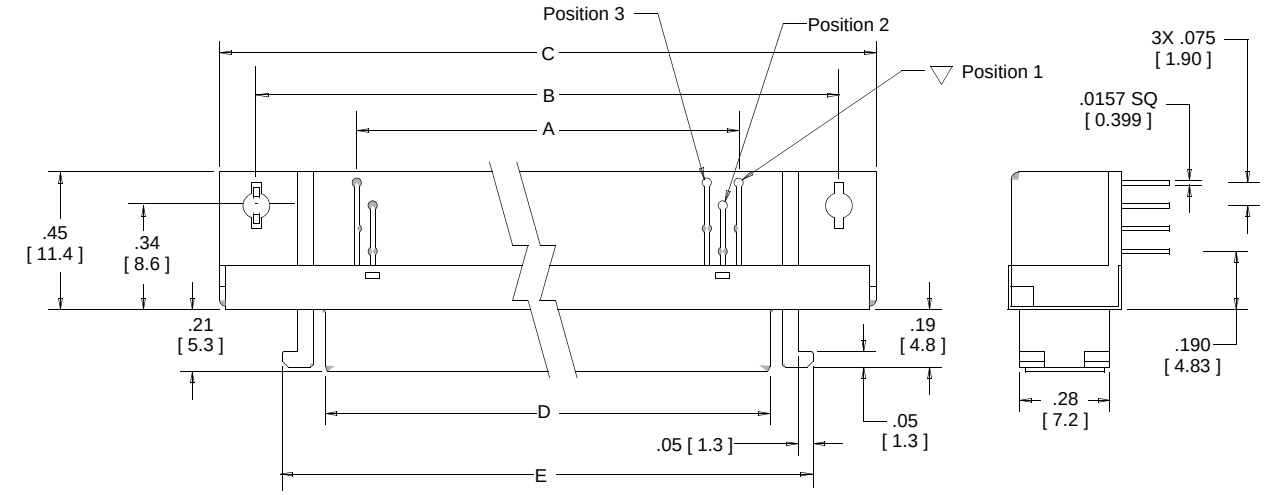
.050″ Boardmount Thru-Hole Right Angle Receptacle-Shielded 102 Series

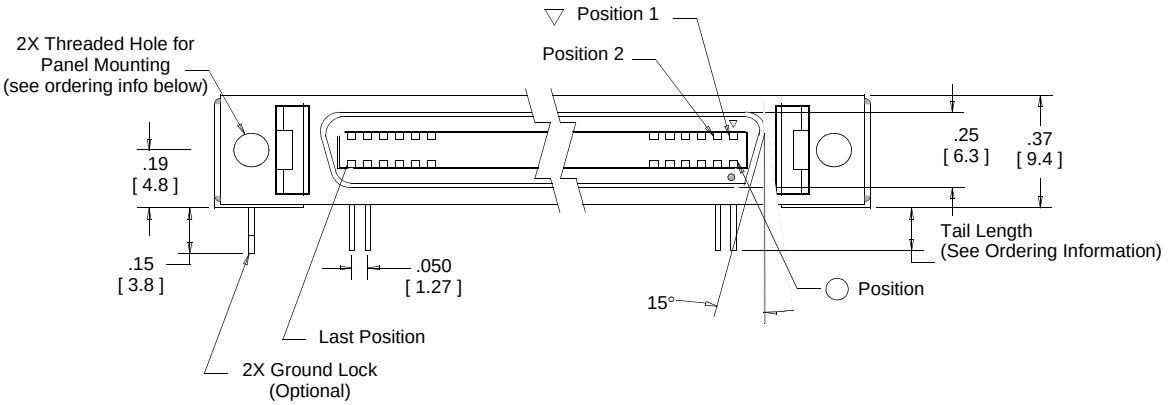
Contact Quantity	Dimensions				
	A	B	C	D	E
14	0.300 [7.62]	0.93 [23.6]	1.16 [29.5]	0.50 [12.6]	0.77 [19.5]
20	0.450 [11.43]	1.08 [27.5]	1.31 [33.4]	0.65 [16.4]	0.92 [23.4]
26	0.600 [15.24]	1.23 [31.3]	1.46 [37.2]	0.80 [20.2]	1.07 [27.2]
36	0.850 [21.59]	1.48 [37.6]	1.71 [43.5]	1.05 [26.6]	1.32 [33.5]
40	0.950 [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]
100	2.450 [62.23]	3.08 [78.3]	3.31 [84.2]	2.65 [67.2]	2.92 [74.2]

Inch
[mm]

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

[ ] Dimensions for Reference Only





Ordering Information

N102XX-52XXPC

Contact Quantity
(See Table)
A0 = 100 pos.

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)

Tail Length
2 = .15 [3.9] (Standard)
3 = .11 [2.8] (Special Order)

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

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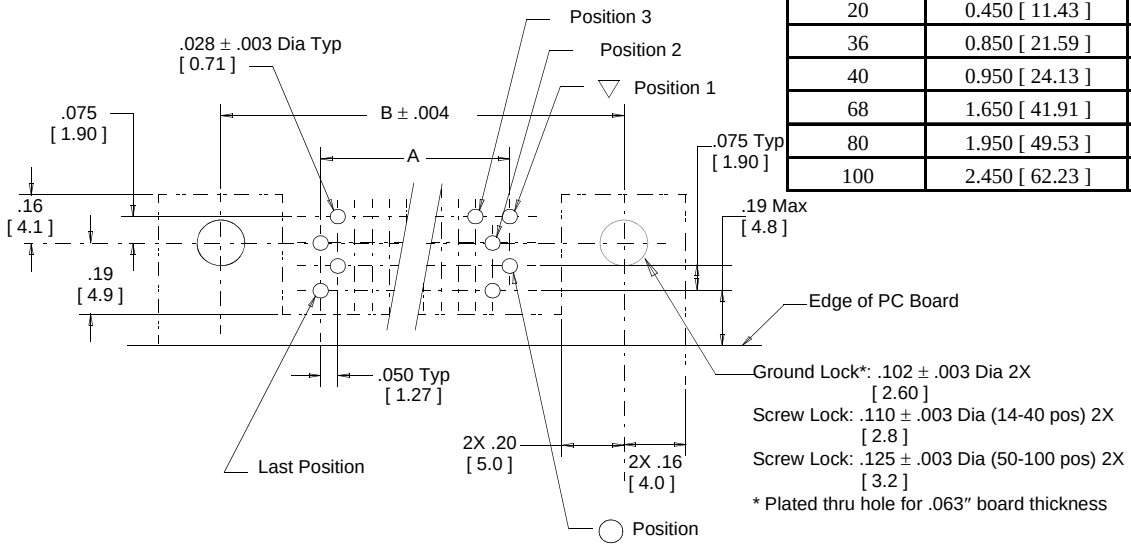
.050″ Boardmount Thru-Hole Right Angle Receptacle-Shielded 102 Series

Recommended Board Layout

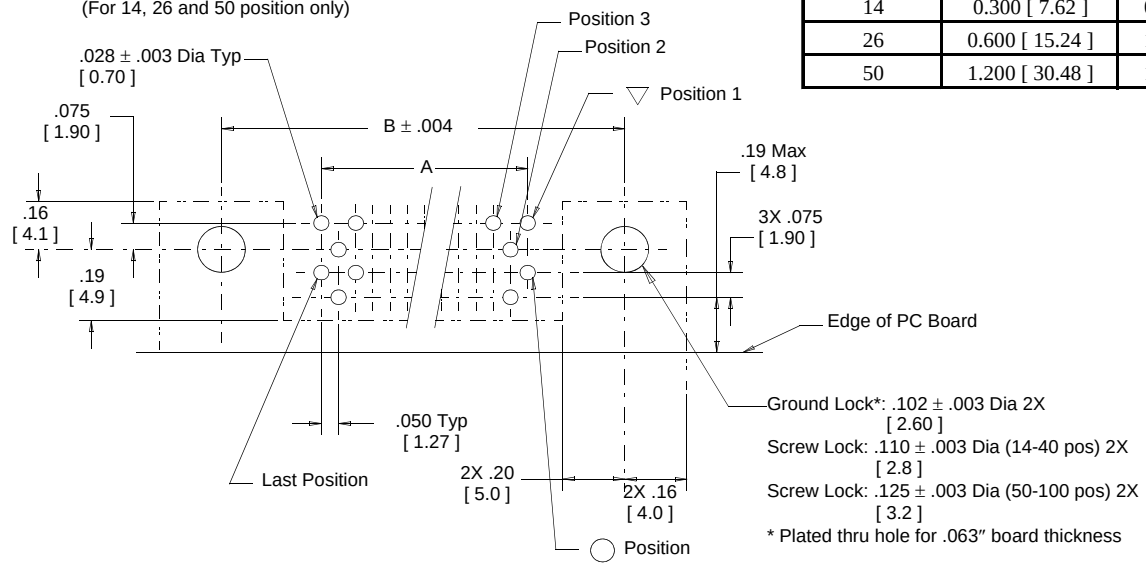
(Viewed from Connector Side for 20, 36, 40, 68, 80 and 100 position only)



Contact Quantity	Dimensions	
	A	B
20	0.450 [11.43]	1.081 [27.45]
36	0.850 [21.59]	1.481 [37.61]
40	0.950 [24.13]	1.581 [40.15]
68	1.650 [41.91]	2.281 [57.93]
80	1.950 [49.53]	2.581 [65.55]
100	2.450 [62.23]	3.081 [78.25]

Recommended Board Layout

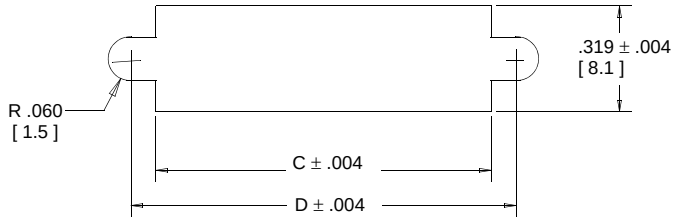
(For 14, 26 and 50 position only)



Contact Quantity	Dimensions	
	A	B
14	0.300 [7.62]	0.931 [23.64]
26	0.600 [15.24]	1.231 [31.26]
50	1.200 [30.48]	1.831 [46.50]

Recommended Panel Cut-out

Note: Panel thickness .079 [2.00] Max.



Contact Quantity	Dimensions	
	C	D
14	.78 [19.9]	.93 [23.64]
20	.94 [23.8]	1.08 [27.45]
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]
100	2.94 [74.6]	3.08 [78.25]

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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.

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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 2005/717/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 E5: European Union RoHS

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

This product contains lead in excess of the maximum concentration value allowed but is compliant by exemption under Item 6 of the Annex to the Directive.

"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 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.

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(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
端子镀层(contact plating)	×	○	○	○	○	○

○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。(Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.)
×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。(Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.)

Appendix C3: 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.

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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(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
合金(Metal alloy)	×	○	○	○	○	○

○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。(Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.)
×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。(Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.)

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