



Positronic Industries
connectpositronic.com

PROFESSIONAL QUALITY FIXED CONTACT STANDARD DENSITY D-SUBMINIATURE

D-Sub

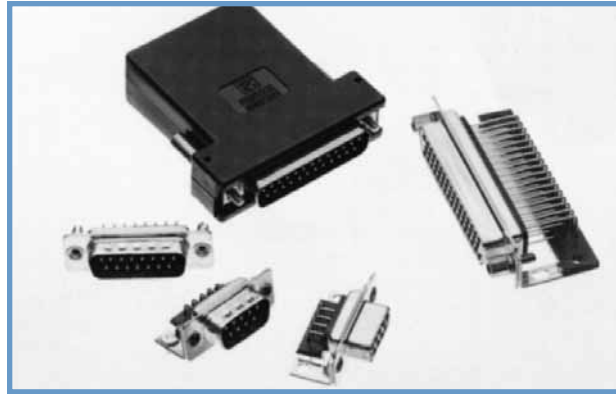
Size 20 Contacts, Fixed

IEC Publication 60807-2 Performance Level Two

U.L. Recognized
File #E49351

CSA Recognized
File #LR54219

Telecommunication
U.L. File #14098



MD SERIES

Melo-D series connectors are professional quality connectors recommended for use in sheltered, non-corrosive indoor or outdoor environments having normal ventilation, but without temperature or humidity controls. These fixed contact connectors meet the dimensional and performance requirements of IEC 60807-2, Performance Level Two.

Melo-D series connectors utilize precision machined contacts which are fixed within the connector body. The female contact is an open entry design contact, precision machined of high tensile phosphor bronze.

Six standard connector variants are offered in arrangements of 9, 15, 25, 29, 37 and 50 contacts. Each Melo-D connector variant is available with contact terminations for solder cup, wrap post, and

straight and right angle (90°) printed board mount terminations featuring a choice of three printed board footprints. Melo-D series connectors are mateable and compatible with all D-subminiature connectors conforming to IEC 60807-2, IEC 60807-3 and MIL-DTL-24308.

A wide assortment of printed board mounting hardware, cable support hoods and locking systems is available from stock.



For RoHS options
see page 10.

MELO-D SERIES TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Nylon resin, UL 94V-0, black color.
Contacts:	Precision machined copper alloy.
Contact Plating:	Professional performance Gold flash over nickel plate. Other finishes available upon request.
Shells:	Steel or brass with tin plate; zinc plate with chromate seal, stainless steel passivated. Other materials and finishes available upon request.
Mounting Spacers and Brackets:	Nylon; copper alloy or steel with zinc plate and chromate seal or tin plate; phosphor bronze with tin plate; stainless steel, passivated.
Push-On Fasteners:	Phosphor bronze or beryllium copper with tin plate.
Jackscrew Systems:	Brass or steel with zinc plate and chromate seal or clear zinc plate or tin plate; stainless steel, passivated..
Vibration Lock Systems:	Slide lock and lock tabs, steel with nickel plate.
Hoods:	Composite and plastic, UL 94V-0; brass or steel with zinc plate and chromate seal; aluminum or aluminum with electroless nickel plate; die cast zinc.
Non-magnetic versions are available, contact Technical Sales.	

MECHANICAL CHARACTERISTICS:

Fixed Contacts:	Size 20 contact, male - 0.040 inch [1.02mm] mating diameter. Female contact - rugged open entry design.
Contact Retention In Insulator:	6 lbs. [27N]
Resistance To Solder Iron Heat:	500°F [260°C] for 10 seconds duration per IEC 60512-6.

Contact Terminations:	Solder cup contacts - 0.042 inch [1.06mm] minimum hole diameter for 20 AWG [0.5mm ²] wire maximum. Straight Printed Board Mount - 0.028 inch [0.71mm] termination diameter. Right Angle (90°) Printed Board Mount - 0.028 inch [0.71mm] termination diameter for all printed board footprints. Wrap Post - 0.025 inch [0.64mm] square.
Shells:	Male shells may be dimpled for EMI/ESD ground paths.
Polarization:	Trapezoidally shaped shells and polarized jackscrews.
Mounting To Angle Brackets:	Jackscrews and riveted fasteners with a 0.120 inch [3.05mm] clearance hole, and threaded riveted fasteners with 4-40 threads and nylon lock inserts.
Mounting To Printed Board:	Rapid installation push-on fasteners and threaded posts.
Locking Systems:	Jackscrews and vibration locking systems.
Mechanical Operations:	500 operations minimum per IEC 60512-5.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	7.5 amperes nominal.
Initial Contact Resistance:	0.008 ohms maximum.
Insulator Resistance:	5 G ohms.
Proof Voltage:	1000 V r.m.s.
Clearance and Creepage Distance [minimum]:	0.039 inch [1.0mm].
Working Voltage:	300 V r.m.s.

CLIMATIC CHARACTERISTICS:

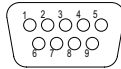
Temperature Range:	-55°C to +125°C.
Damp Heat, Steady State:	10 days.

MD series connectors can be supplied with interfacial seals and sealed between shell and insulator. This provides an additional degree of moisture resistance. See Accessories catalog for details.

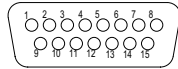


CONTACT VARIANTS

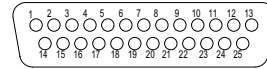
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



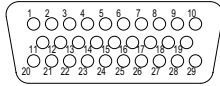
MD 9



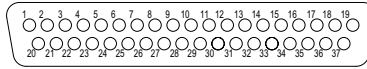
MD 15



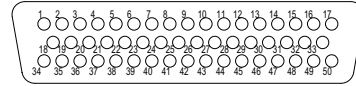
MD 25



MD 29

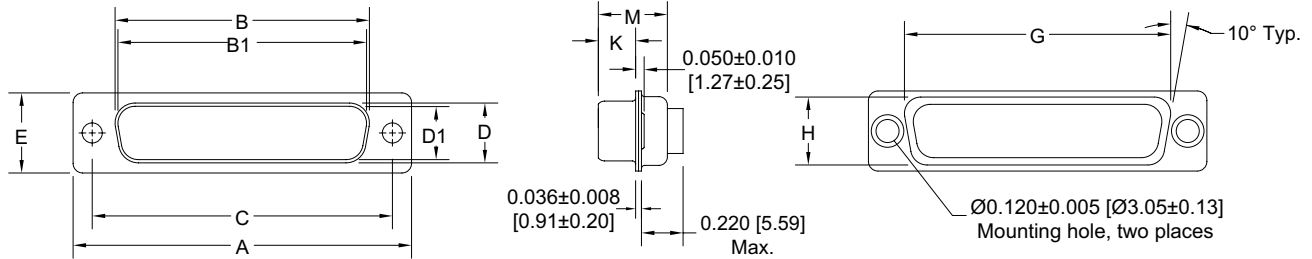


MD 37

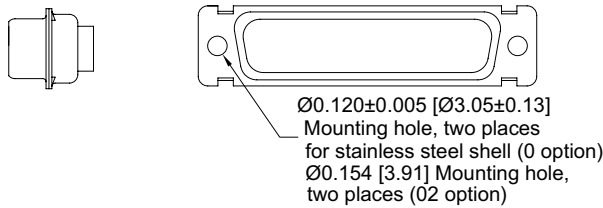


MD 50

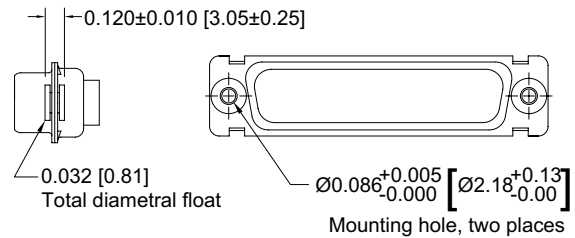
STANDARD SHELL ASSEMBLY



OPTIONAL SHELL ASSEMBLY (0, 02)



OPTIONAL SHELL ASSEMBLY
WITH UNIVERSAL FLOAT MOUNTS (F)



CONNECTOR VARIANT SIZES	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±0.005 [0.13]	E ±0.015 [0.38]	G ±0.010 [0.25]	H ±0.010 [0.25]	K ±0.005 [0.13]	M ±0.010 [0.25]
9 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
9 F	1.213 [30.81]	0.643 [16.33]		0.984 [24.99]	0.311 [7.90]		0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
15 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
15 F	1.541 [39.14]	0.971 [24.66]		1.312 [33.32]	0.311 [7.90]		0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
25 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
25 F	2.088 [53.04]	1.511 [38.38]		1.852 [47.04]	0.311 [7.90]		0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
29 M	1.770 [44.96]		1.274 [32.36]	1.534 [38.96]		0.450 [11.43]	0.605 [15.37]	1.322 [33.58]	0.539 [13.69]	0.217 [5.51]	0.426 [10.82]
29 F	1.770 [44.96]	1.251 [31.78]		1.534 [38.96]	0.431 [10.95]		0.605 [15.37]	1.322 [33.58]	0.539 [13.69]	0.237 [6.02]	0.429 [10.90]
37 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
37 F	2.729 [69.32]	2.159 [54.84]		2.500 [63.50]	0.311 [7.90]		0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
50 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
50 F	2.635 [66.93]	2.064 [52.43]		2.406 [61.11]	0.423 [10.74]		0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.243 [6.17]	0.429 [10.90]



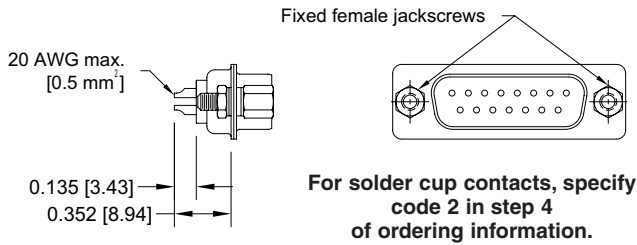
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PROFESSIONAL QUALITY FIXED CONTACT STANDARD DENSITY D-SUBMINIATURE

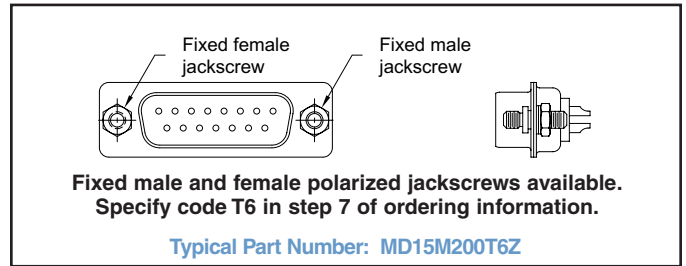
D-Sub

SOLDER CUP CONNECTOR

CODE 2



Typical Part Number: MD15M200T2Z



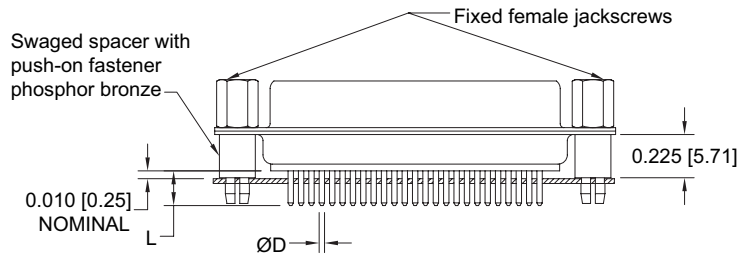
Typical Part Number: MD15M200T6Z

STRAIGHT PRINTED BOARD MOUNT CONNECTOR

CODE 3, 32 AND 33

CODE NUMBER	L	ØD
3	0.150 [3.81]	0.028 [0.71]
32	0.375 [9.53]	0.028 [0.71]
33	0.500 [12.70]	0.028 [0.71]

For straight printed board mount contacts, specify code number in step 4 of ordering information.

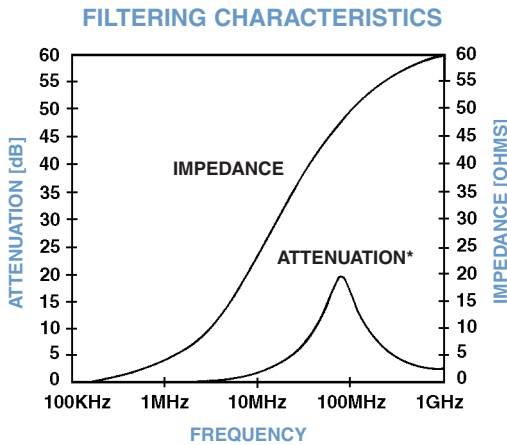


Typical Part Number: MD25F3S60T0

FERRITE INDUCTOR BAR FOR EMI/RFI NOISE SUPPRESSION

CODE F AND Q

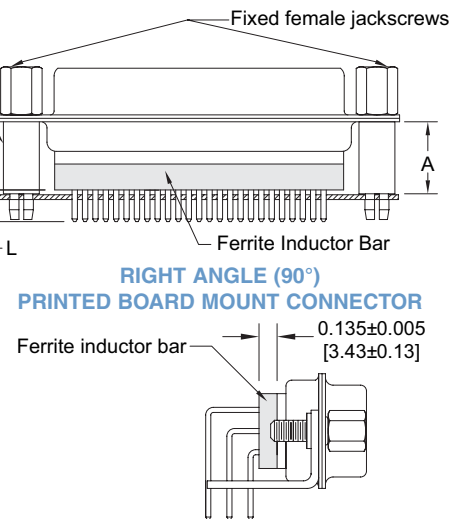
STRAIGHT PRINTED BOARD MOUNT CONNECTOR



MATERIAL: Nickel zinc ceramic

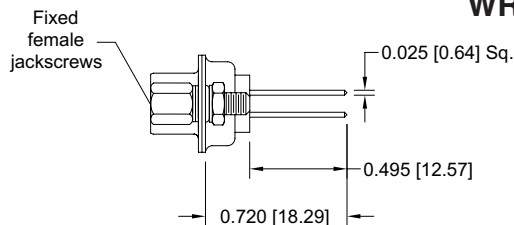
SERIES	CODE NO.	A	L
MD, MDX, HDC	32	0.375 [9.53]	0.240 [6.10]
ODD		0.375 [9.53]	0.165 [4.19]
DD		0.515 [13.08]	0.165 [4.19]
ED, HDC	36	0.375 [9.53]	0.101 [2.57]
MD, MDX	4	-----	-----
ODD	5	-----	-----
MD	59	-----	-----
MD, HDC	6	0.375 [9.53]	0.360 [9.14]

Specify code F or Q in step 6 of ordering information. F for ferrite inductor and Q for ferrite inductor with push-on fastener.



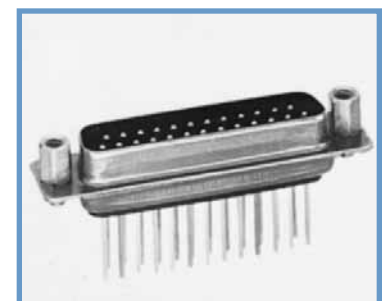
WRAP POST CONNECTOR

CODE 6



Typical Part Number: MD15F600T20

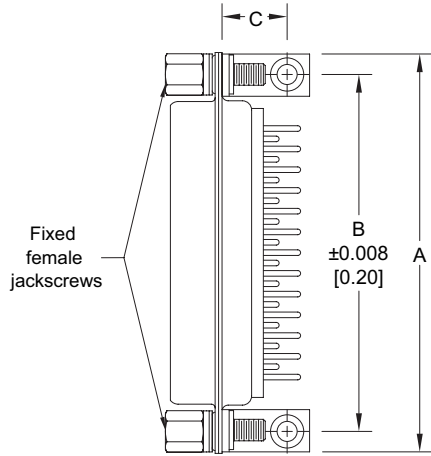
For wrap post contacts, specify code 6 in step 4 of ordering information.



MD25M6S50T0

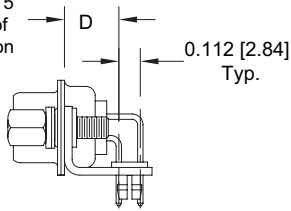


RIGHT ANGLE (90°) PRINTED BOARD MOUNT CONNECTOR
CODE 5, 0.283 [7.19] CONTACT EXTENSION



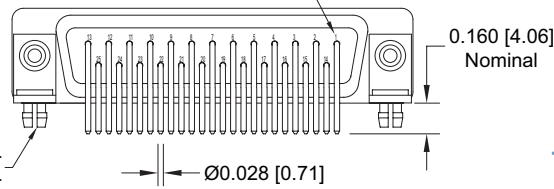
MD**5R4*** 0.283 [7.19] CONTACT EXTENSION				
PART NUMBER	A	B	C	D
MD9*5R4***	1.204 [30.58]	0.984 [24.99]	0.339 [8.61]	0.283 [7.19]
MD15*5R4***	1.532 [38.91]	1.312 [33.32]	0.339 [8.61]	0.283 [7.19]
MD25*5R4***	2.072 [52.63]	1.852 [47.04]	0.339 [8.61]	0.283 [7.19]
MD29*5R4***	1.754 [44.55]	1.534 [38.96]	0.395 [10.03]	0.283 [7.19]
MD37*5R4***	2.720 [69.09]	2.500 [63.50]	0.339 [8.61]	0.283 [7.19]
MD50*5R4***	2.626 [66.70]	2.406 [61.11]	0.395 [10.03]	0.283 [7.19]

Specify code 5
in step 4 of
ordering information

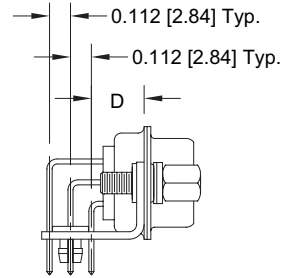


Typical Part Number:
MD25M5R4NT2X

Numbering shown is rear view
of male and face view of female.

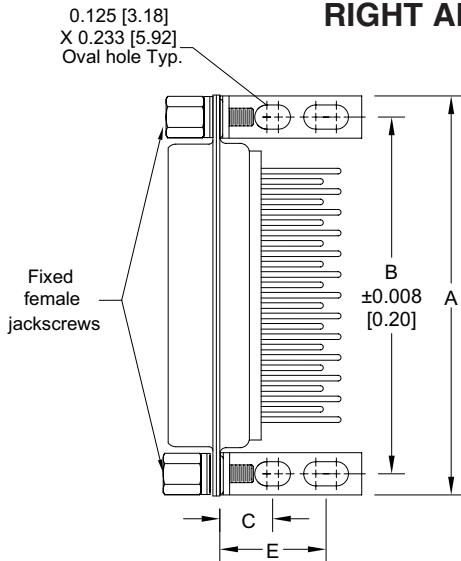


Push-on fastener
beryllium copper



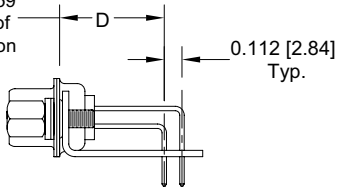
Typical Part Number:
MD50M5R4NT2X

RIGHT ANGLE (90°) PRINTED BOARD MOUNT CONNECTOR
CODE 59, 0.545 [13.84] CONTACT EXTENSION



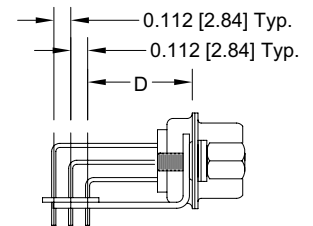
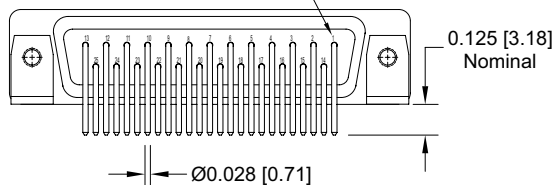
MD**59B*** 0.545 [13.84] CONTACT EXTENSION					
PART NUMBER	A	B	C	D	E
MD9*59B***	1.204 [30.58]	0.984 [24.99]	0.275 [6.99]	0.545 [13.84]	0.601 [15.27]
MD15*59B***	1.532 [38.91]	1.312 [33.32]	0.275 [6.99]	0.545 [13.84]	0.601 [15.27]
MD25*59B***	2.072 [52.63]	1.852 [47.04]	0.275 [6.99]	0.545 [13.84]	0.601 [15.27]
MD29*59B***	1.754 [44.55]	1.534 [38.96]	0.275 [6.99]	0.545 [13.84]	0.657 [16.69]
MD37*59B***	2.720 [69.09]	2.500 [63.50]	0.275 [6.99]	0.545 [13.84]	0.601 [15.27]
MD50*59B***	2.626 [66.70]	2.406 [61.11]	0.275 [6.99]	0.545 [13.84]	0.657 [16.69]

Specify code 59
in step 4 of
ordering information



Typical Part Number:
MD25M59B0T2X

Numbering shown is rear view
of male and face view of female.

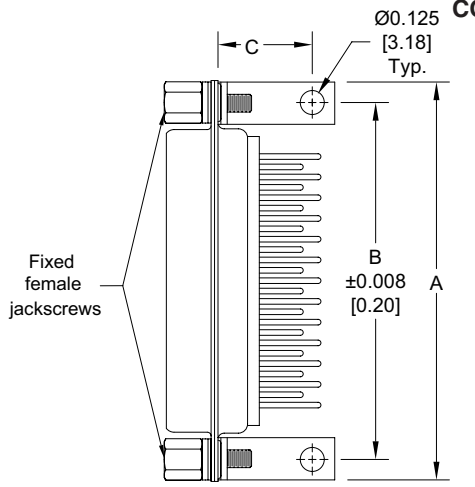


Typical Part Number:
MD29M59B0T2X

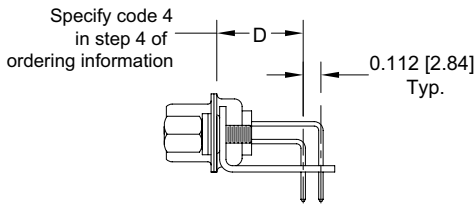


RIGHT ANGLE (90°) PRINTED BOARD MOUNT CONNECTOR

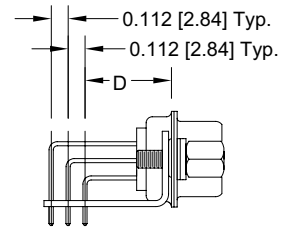
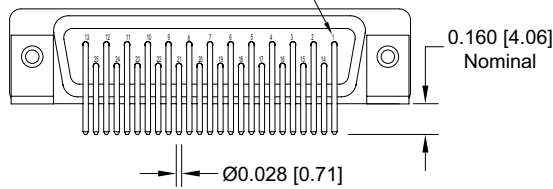
CODE 4, 0.450 [11.43] CONTACT EXTENSION



MD**4B*** 0.450 [11.43] CONTACT EXTENSION				
PART NUMBER	A	B	C	D
MD9*4B***	1.204 [30.58]	0.984 [24.99]	0.506 [12.85]	0.450 [11.43]
MD15*4B***	1.532 [38.91]	1.312 [33.32]	0.506 [12.85]	0.450 [11.43]
MD25*4B***	2.072 [52.63]	1.852 [47.04]	0.506 [12.85]	0.450 [11.43]
MD29*4B***	1.754 [44.55]	1.534 [38.96]	0.562 [14.27]	0.450 [11.43]
MD37*4B***	2.720 [69.09]	2.500 [63.50]	0.506 [12.85]	0.450 [11.43]
MD50*4B***	2.626 [66.70]	2.406 [61.11]	0.562 [14.27]	0.450 [11.43]



Numbering shown is rear view of male and face view of female.

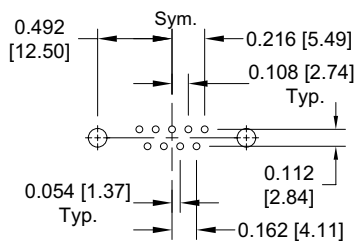


Typical Part Number:
MD25M4B0T20

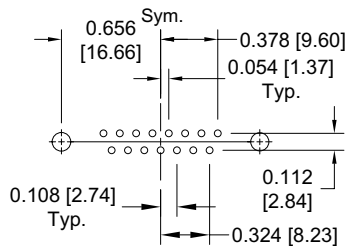
Typical Part Number:
MD50M4B0T20

RIGHT ANGLE (90°) AND STRAIGHT PRINTED BOARD CONTACT HOLE PATTERN

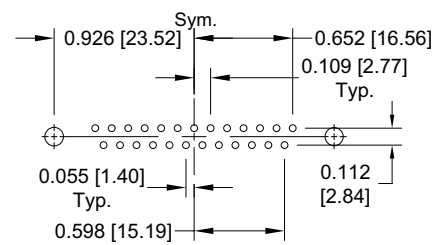
MOUNT CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROW.



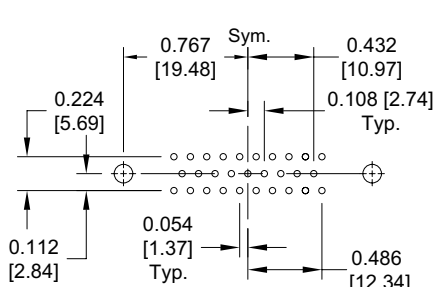
MD9



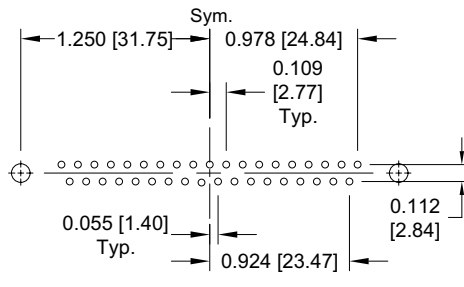
MD15



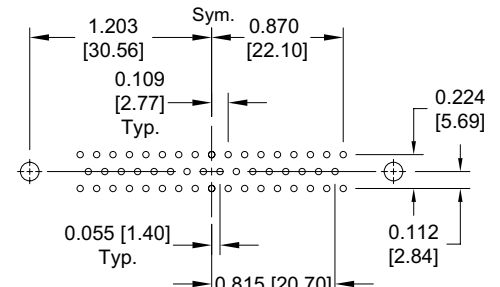
MD25



MD29



MD37



MD50


SUGGESTED PRINTED BOARD HOLE SIZES:

Suggest 0.045 [1.14] Ø hole for contact termination positions.
Suggest 0.123 ±0.003 [3.12 ±0.08] Ø hole for mounting connector with push-on fasteners.



ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

STEP	1	2	3	4	5	6	7	8	9	10
EXAMPLE	MD	25	F	59	R7	N	T6	X	/AA	-14
STEP 1 - BASIC SERIES MD series.										
STEP 2 - CONNECTOR VARIANTS 9, 15, 25, 29, 37, 50										
STEP 3 - CONNECTOR GENDER M - Male F - Female										
STEP 4 - CONTACT TERMINATION TYPE 2 - Solder cup. 3 - Solder, Straight Printed Board Mount with 0.150 [3.81] Tail Length. 32 - Solder, Straight Printed Board Mount with 0.375 [9.52] Tail Length. 33 - Solder, Straight Printed Board Mount with 0.500 [12.70] tail length. 4 - Solder, Right Angle (90°) Printed Board Mount with 0.450 [11.43] Contact Extension. 5 - Solder, Right Angle (90°) Printed Board Mount with 0.283 [7.19] Contact Extension. 59 - Solder, Right Angle (90°) Printed Board Mount with 0.545 [13.84] Contact Extension. 6 - Wrap Post.										
*1 STEP 5 - MOUNTING STYLE 0 - Mounting Hole, 0.120 [3.05] Ø. 02 - Mounting Hole, 0.154 [3.91] Ø. B - Bracket, Mounting, Right Angle (90°) Metal. B3 - Bracket, Mounting, Right Angle (90°) Metal with Cross Bar. B7 - Bracket, Mounting, Right Angle (90°) Plastic. B8 - Bracket, Mounting, Right Angle (90°) Plastic with Cross Bar. F - Float Mounts, Universal. P - Threaded Post, Brass, 0.225 [5.71] Length. P2 - Threaded Post, Nylon, 0.225 [5.71] Length. R - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 4-40 Thread Fixed Female Jackscrews. R2 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 4-40 Thread Fixed Female Jackscrews with Cross Bar. R3 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 0.120 [3.05] Ø Mounting Hole. R4 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 4-40 Threads. R5 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 4-40 Locknut. R6 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 0.120 [3.05] Ø Mounting Hole with Cross Bar. R7 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 4-40 Threads with Cross Bar. R8 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 4-40 Locknut with Cross Bar. S - Swaged Spacer, 4-40 Threads, 0.225 [5.71] Length. S2 - Swaged Spacer, 4-40 Threads, 0.125 [3.18] Length. S5 - Swaged Locknut, 4-40 Threads. S6 - Swaged Spacer with Push-on Fastener, 4-40 Threads, 0.225 [5.71] Length. S7 - Swaged Spacer with Push-on Fastener for use with Ferrite Inductor, 4-40 Threads, 0.375 [9.53] Length.										
*1 STEP 6 - HOODS AND PUSH-ON FASTENERS 0 - None. J - Hood, Top Opening, Plastic. L - Hood, Side Opening, Plastic. Y - Hood, Top Opening, Plastic with Rotating Male Jackscrews. Available in size 50 only. Y6 - Hood, Top Opening, Plastic with Rotating Male and Female Polarized Jackscrews. Available in size 50 only. Z - Hood, Top or Side Opening, Robust and Extended Height, Composite and Plastic with Rotating Male Jackscrews. Available in size 9, 15, 25, 37, and 50 only. H - Hood, Top Opening, Metal. Available in size 15, 25, 37, and 50 only. G - Hood, EMI/RFI, Metal. Available in size 9, 15, 25, 37, and 50 only. ^{*4} AN - Lightweight Aluminum Hood, nickel finish. ^{*5} AC - Lightweight Aluminum Hood, no finish. W - Hood, Top or Side Opening, Plastic. Available in size 9, 15, and 25 only. N - Push-on fastener for right angle (90°) mounting brackets. ^{*2} F - Ferrite inductor. ^{*2} Q - Ferrite inductor for use with push-on fastener and right angle (90°) mounting brackets.										
*1 STEP 7 - LOCKING AND POLARIZING SYSTEMS 0 - None. ^{*3} V3 - Lock Tab, connector front panel mounted. ^{*3} V5 - Lock Tab, connector rear panel mounted. ^{*3} VL - Lock Lever, used with Hoods only. T - Fixed Female Jackscrews. T2 - Fixed Female Jackscrews. T6 - Fixed Male and Female Polarized Jackscrews. E - Rotating Male Jackscrews. E2 - Rotating Male Screw Locks. E3 - Rotating Male with Internal Hex for 3/32 Hex Drives E6 - Rotating Male and Female Polarized Jackscrews.										
STEP 8 - Shell Options 0 - Zinc plated, with chromate seal. ^{**} S - Stainless steel, passivated. X - Tin plated. Z - Tin plated and dimpled (male connectors only).										
STEP 9 - ENVIRONMENTAL COMPLIANCE OPTIONS /AA - Compliant per EU Directive 2002/95/EC (RoHS)  NOTE: If compliance to environmental legislation is not required, this step will not be used. Example: MD25F59R7NT6X										
STEP 10 - SPECIAL OPTIONS -14 - 0.000030 [0.76µ] gold over nickel. -15 - 0.000050 [1.27µ] gold over nickel. CONTACT TECHNICAL SALES FOR SPECIAL OPTIONS										

^{*1} For additional information on accessories listed in steps 5, 6 and 7, see Accessory Catalog.
^{*2} Ferrite inductor is available on contact types 32, 4, 59 and 6 only. For more information on ferrite inductors, see page 7.
^{*3} VL, V3 and V5 locking systems are not available for connector variants 37 and 50. Jackscrews are highly recommended to minimize damage to contacts on variants with high mating forces.
^{*4} For stainless steel dimpled male versions contact Technical Sales.
^{*5} AN and AC hood are not available for connector variant 29. Consult Technical Sales for availability.