

Low Profile  
Metal and Plastic Shell Micro-D  
Product Selection Guide

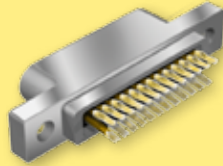


Micro-D  
Double and  
Triple Row

SECTION E LOW PROFILE MLDM AND MWDL MICRO-D PRODUCT SELECTION GUIDE

**Metal Shell  
Solder Cup**

Page E-3



**MLDM Metal Shell, Solder Cup**

Solder cup contacts accept #24-30 AWG solid or stranded wire. Available in 9 to 51 positions. High performance M83513 TwistPin contact system. Contacts are factory-installed, non-removable and are encapsulated with epoxy. Gold-plated solder cups. 3 Amp, 600 Vac, -55°C to +150°C.

**Metal Shell  
Pre-Wired**

Page E-5

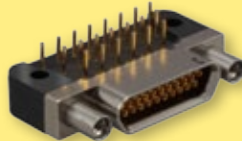


**MLDM Metal Shell, Pre-Wired**

Pre-wired with #24 to #30 stranded wire or uninsulated solid wire. Available in 9 to 51 positions. High performance M83513 TwistPin contact system. Contacts are factory-installed, non-removable and are encapsulated with epoxy. 3 Amp, 600 Vac, -55°C to +150°C.

**Metal Shell  
Right Angle PCB**

Page E-11



**MLDM Metal Shell, Right Angle PCB**

Available in 9 to 51 positions. High performance M83513 TwistPin contact system. Contacts are factory-installed, non-removable and are encapsulated with epoxy. PCB terminal spacing is .100" x .100" for easy board fabrication. 3 Amp, 600 Vac, -55°C to +150°C.

**Plastic Shell  
Solder Cup**

Page E-15



**MWD All-Plastic, Solder Cup**

These connectors are available with nine through 51 contacts. Featuring the same TwistPin contact system as the MLDM metal shell connector, the MWD All-Plastic connector is an economical alternative to metal shell connectors. Gold-plated solder cups accept #24 – #30 AWG wire. 3 Amp, 600 Vac, -55°C to +150°C.

**Plastic Shell  
Pre-Wired**

Page E-17

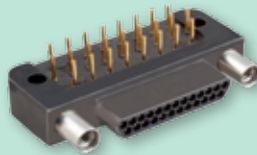


**MWD All-Plastic, Pre-Wired**

These crimp-terminated pre-wired assemblies offer an alternative to the time-consuming job of soldering wires. Connectors are available with insulated, stranded mil spec wire or with uninsulated single strand wire. Back-to-back cables assemblies are also available. #24 – #30 AWG wire size. 3 Amp, 600 Vac, -55°C to +150°C.

**Plastic Shell  
Right Angle PCB**

Page E-23



**MWD All-Plastic, Right Angle PCB**

Available in 9 to 51 positions. High performance M83513 TwistPin contact system. Contacts are factory-installed, non-removable and are encapsulated with epoxy. Gold-plated PC tails. PCB terminal spacing is .100" x .100" for easy board fabrication. 3 Amp, 600 Vac, -55°C to +150°C.

E



## Low Profile Metal and Plastic Shell Micro-D Product Information

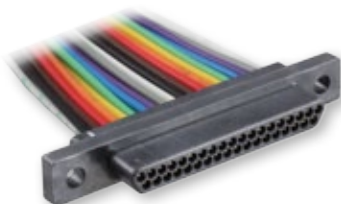
### MLDM

Low Profile Metal Shell Connector



### MWD

Low Profile All-Plastic Connector



- Metal Shell or One-Piece Plastic
- High Reliability TwistPin Contact System
- .050" Pitch Contact Spacing
- Solder Cup, Pre-Wired or PCB Headers
- 3 Amps, +150°C, 600 Vac

## E

*Low Profile Metal Shell and Plastic Shell Micro-D's Save Space Compared to MWDM Metal Shell Connectors*

Low profile MLDM metal shell and MWD plastic shell connectors are intended for high reliability board-to-wire I/O and wire-to-wire applications. Gold-plated TwistPin contacts provide excellent performance when subjected to high levels of shock and vibration. Plastic and metal versions are interchangeable. Flange height is reduced by 33% compared to MWDM standard Micro-D connectors.

### SIZE COMPARISON



MLDM 51 Pin Low Profile

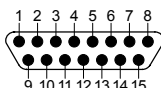


MWDM 51 Pin Standard Height

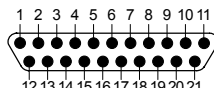
### LOW PROFILE MLDM AND MWD CONTACT ARRANGEMENTS



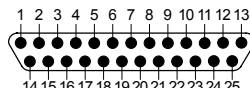
9



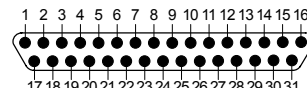
15



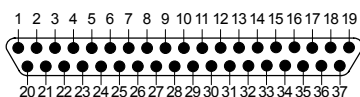
21



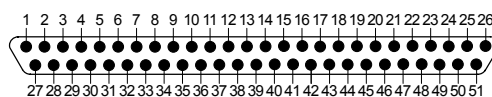
25



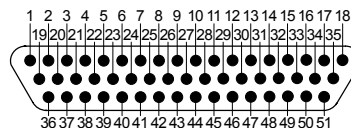
31



37



51-2



51

**Mating face of pin connector. Socket connector contact numbers are reversed.**

### MATERIALS AND FINISHES

Contacts	Copper alloy, 50 µlnch gold over nickel
Insulator, MWDL Body	Liquid crystal polymer (LCP)
MLDM Shell	Aluminum alloy
Mounting Hardware	Stainless Steel
Potting Compound	Epoxy
Insulated Wire	Per MIL-W-22759/11 and /133
Solid Wire, PC Tails	Per A-A-59551, gold plated or tinned

### SPECIFICATIONS

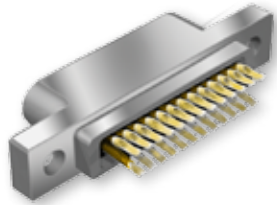
Current Rating	3 Amps
Contact Resistance	8 milliohms maximum
Dielectric Withstanding Voltage	600 Vac sea level
Insulation Resistance	5000 megohms minimum
Operating Temperature	-55°C. to +150°C.
Shock	50 g.
Vibration	20 g.

# Low Profile Metal and Plastic Shell Micro-D MLDM Metal Shell Solder Cup Contacts



Micro-D  
Double and  
Triple Row

## Low Profile MLDM Metal Shell Micro-D with Solder Cup Contacts



MLDM2L-25SSB

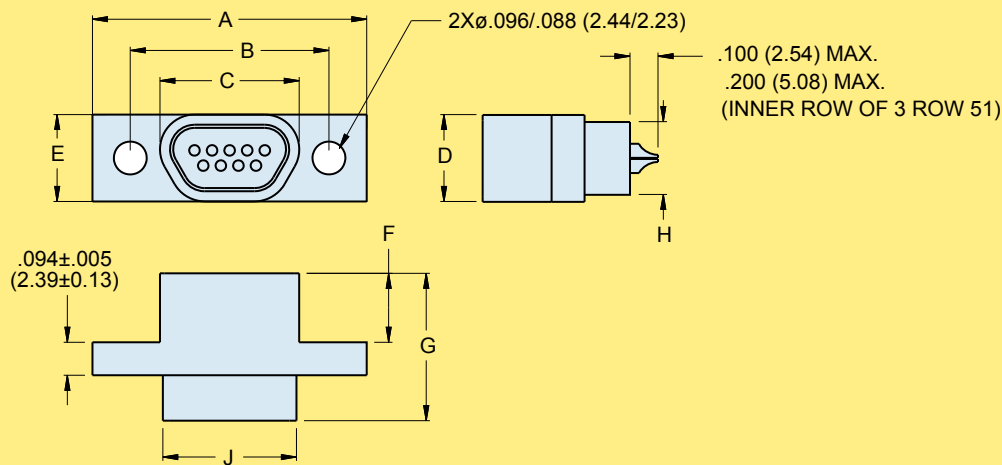
Low profile MLDM connectors have reduced flange height compared to standard MWDM Micro-D connectors. These .050" pitch solder cup Micro-D connectors accept #26 to #30 gage wire with standard contacts and up to size #24 wire with "large bore" contacts. Contacts are factory-installed and potted with epoxy. Pin contacts are gold-plated high performance TwistPin type and are recessed into insulator to prevent damage. Socket contacts are gold plated, machined copper alloy. Machined aluminum shell. Glass-filled high temperature LCP thermoplastic insulators withstand soldering heat. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +150°C.

HOW TO ORDER										
Sample Part Number										
MLDM2L	-25	PS	B							
Series	Number of Contacts	Contact Type	Mounting Hardware							
<b>MLDM1L</b> Low Profile Metal Shell Micro-D with Yellow Chromate over <b>Cadmium</b> Shell Finish (Good corrosion protection, not RoHS compliant)	-9	<b>PS</b> Pin Contacts, Size #26 Solder Cup	<b>B</b> Thru-Hole		<b>P</b> Jackpost					
	-15									
	-21		<b>NS</b> Pin Contacts, Size #24 Solder Cup	<b>M</b> Jackscrew, Hex Head, Removable		<b>M1</b> Jackscrew, Hex Head, Extended, Removable				
	-25									
	-31									
<b>MLDM2L</b> Low Profile Metal Shell Micro-D with <b>Electroless Nickel</b> Shell Finish (RoHS compliant, preferred for space vehicles and protected environments)	-37	<b>SS</b> Socket Contacts, Size #26 Solder Cup	<b>S</b> Jackscrew, Slot Head, Removable		<b>S1</b> Jackscrew, Slot Head, Extended, Removable					
	-51									
-51-2	<b>TS</b> Socket Contacts, Size #24 Solder Cup	<b>L</b> Jackscrew, Hex Head, Non-Removable		<b>K</b> Jackscrew, Slot Head, Extended, Non-Removable						
<b>MLDM32L</b> Low Profile Metal Shell Micro-D with <b>Black Zinc Nickel</b> Shell Finish (RoHS compliant, preferred for tactical equipment where a black finish and good corrosion protection are required)						<b>TS</b> Socket Contacts, Size #24 Solder Cup	<b>F</b> Float Mount for Front-Panel Mounting		<b>R</b> Float Mount for Rear-Panel Mounting	



# Low Profile Metal and Plastic Shell Micro-D MLDM Metal Shell Solder Cup Contacts

## MLDM SOLDER CUP DIMENSIONS



Layout	A Max.		B		C Max.		D Max.		E Max.		F		G Max.		H Max.		J Max.	
	In.	mm.	In. $\pm .003$	mm. $\pm 0.08$	In.	mm.	In.	mm.	In.	mm.	In. $\pm .003$	mm. $\pm 0.08$	In.	mm.	In.	mm.	In.	mm.
9P	.788	20.02	.565	14.35	.292	7.42	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.405	10.29
9S	.788	20.02	.565	14.35	.380	9.65	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.405	10.29
15P	.938	23.83	.715	18.16	.442	11.23	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.555	14.10
15S	.938	23.83	.715	18.16	.530	13.46	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.555	14.10
21P	1.088	27.64	.865	21.97	.592	15.04	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.705	17.91
21S	1.080	27.64	.865	21.97	.680	17.27	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.705	17.91
25P	1.188	30.18	.965	24.51	.692	17.58	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.805	20.45
25S	1.185	30.18	.965	24.51	.780	19.81	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.805	20.45
31P	1.338	33.99	1.115	28.32	.842	21.39	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.955	24.26
31S	1.338	33.99	1.115	28.32	.930	23.62	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.955	24.26
37P	1.488	37.80	1.265	32.13	.992	25.20	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	1.105	28.07
37S	1.488	37.80	1.265	32.13	1.080	27.43	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	1.105	28.07
51P	1.438	36.53	1.215	30.86	.942	23.93	.177	4.50	.260	6.60	.199	5.05	.390	9.91	.220	5.59	1.058	26.87
51S	1.438	36.53	1.215	30.86	1.030	26.16	.260	6.60	.260	6.60	.180	4.57	.377	9.58	.220	5.59	1.058	26.87
51-2P	1.835	46.61	1.615	41.02	1.340	34.04	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	1.455	36.96
51-2S	1.835	46.61	1.615	41.02	1.425	36.20	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	1.455	36.96

# Low Profile Metal and Plastic Shell Micro-D MLDM Metal Shell Insulated Wire Pigtails



Micro-D  
Double and  
Triple Row

## Low Profile MLDM Metal Shell Micro-D With Insulated Wire



MLDM2L-31P-6K5-18M

Low profile MLDM connectors have reduced flange height compared to standard MWDM Micro-D connectors. These .050" pitch Micro-D connectors are supplied with stranded mil spec hookup wire. Contacts are crimped to wire and potted with epoxy. Pin contacts are gold-plated high performance TwistPin type and are recessed into insulator to prevent damage. Socket contacts are gold plated, machined copper alloy. Machined aluminum shell. Glass-filled high temperature LCP thermoplastic insulators. M22759/11 standard wire, or M22959/33 lightweight, high strength space grade wire. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +150°C.

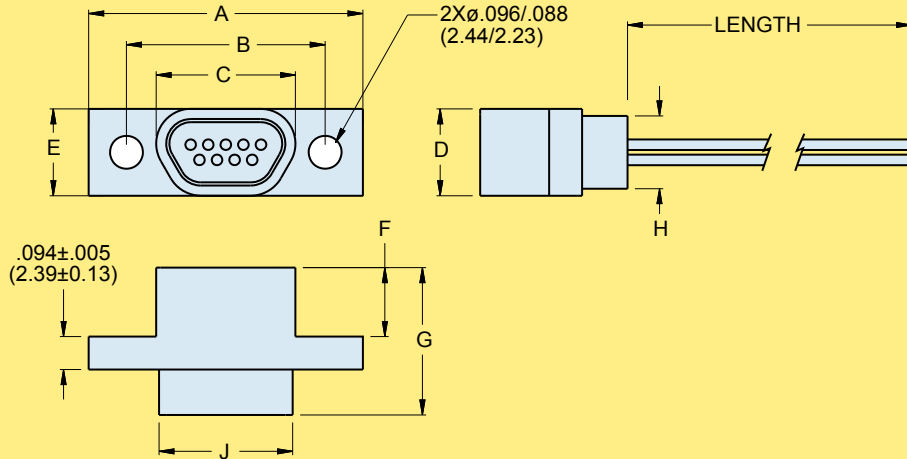
HOW TO ORDER							
Sample Part Number							
MLDM2L	-31	P	-6	K	5	-18	M
Series	No. of Contacts	Contact Type	Wire Gage (AWG)	Wire Type	Wire Color Code	Wire Length (Inches)	Mounting Hardware
<b>MLDM1L</b> Low Profile Metal Shell Micro-D with Yellow Chromate over <b>Cadmium</b> Finish	-9 -15 -21 -25 -31	<b>P</b> Pin Contacts	-4 #24	<b>K</b> Standard Wire	<b>1</b> White	Wire Length In Inches	<b>B</b> <b>M</b> <b>M1</b> <b>S</b> <b>S1</b> <b>L</b> <b>F</b> <b>H</b> <b>P</b> <b>K</b> <b>R</b>
<b>MLDM2L</b> Low Profile Metal Shell Micro-D with <b>Electroless Nickel</b> Shell Finish	-37 -51 -51-2	<b>S</b> Socket Contacts	-6 #26 -8 #28 -0 #30	Extruded PTFE per M22759/11, Silver-Plated Conductors (#30 AWG not available)	<b>5</b> Color-Coded per MIL-STD-681 Wires 1-10 are solid color, 11-up are striped.	Example: <b>-18</b> 18 inches	
<b>MLDM32L</b> Low Profile Metal Shell Micro-D with <b>Black Zinc Nickel</b> Shell Finish				<b>J</b> Space Grade Wire	<b>7</b> 10 Color Repeat Wires are solid color per MIL-STD-681 color code system. Wires #1, #11, #21 are black, wires #2, #12, #22 are brown, and so on.	6, 12 and 18 are frequently used lengths.	
<b>MLDM33L</b> Low Profile Metal Shell Micro-D with <b>Nickel-Fluorocarbon</b> Shell Finish				High Strength, Lightweight, Crosslinked Modified ETFE per M22759/33, Silver-Plated Conductors			

MOUNTING HARDWARE										
B	P	M	M1	S	S1	L	K	F	R	H
Thru-Hole	Jackpost #2-56	Hex Head Jackscrew #2-56	Hex Head Jackscrew, Extended #2-56	Slot Head Jackscrew #2-56	Slot Head Jackscrew, Extended #2-56	Hex Head Jackscrew Non-Removable #2-56	Slot Head Jackscrew Non-Removable Extended #2-56	Float Mount For Front Panel Mounting	Float Mount For Rear Panel Mounting	#2-56 Threaded Insert



# Low Profile Metal and Plastic Shell Micro-D MLDM Metal Shell Insulated Wire Pigtails

## MLDM INSULATED WIRE PIGTAIL DIMENSIONS



Layout	A Max.		B		C Max.		D Max.		E Max.		F		G Max.		H Max.		J Max.	
	In.	mm.	In. ± .003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.	In. ± .003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.
<b>9P</b>	.788	20.02	.565	14.35	.292	7.42	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.405	10.29
<b>9S</b>	.788	20.02	.565	14.35	.380	9.65	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.405	10.29
<b>15P</b>	.938	23.83	.715	18.16	.442	11.23	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.555	14.10
<b>15S</b>	.938	23.83	.715	18.16	.530	13.46	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.555	14.10
<b>21P</b>	1.088	27.64	.865	21.97	.592	15.04	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.705	17.91
<b>21S</b>	1.080	27.64	.865	21.97	.680	17.27	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.705	17.91
<b>25P</b>	1.188	30.18	.965	24.51	.692	17.58	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.805	20.45
<b>25S</b>	1.185	30.18	.965	24.51	.780	19.81	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.805	20.45
<b>31P</b>	1.338	33.99	1.115	28.32	.842	21.39	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.955	24.26
<b>31S</b>	1.338	33.99	1.115	28.32	.930	23.62	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.955	24.26
<b>37P</b>	1.488	37.80	1.265	32.13	.992	25.20	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	1.105	28.07
<b>37S</b>	1.488	37.80	1.265	32.13	1.080	27.43	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	1.105	28.07
<b>51P</b>	1.438	36.53	1.215	30.86	.942	23.93	.177	4.50	.260	6.60	.199	5.05	.390	9.91	.220	5.59	1.058	26.87
<b>51S</b>	1.438	36.53	1.215	30.86	1.030	26.16	.260	6.60	.260	6.60	.180	4.57	.377	9.58	.220	5.59	1.058	26.87
<b>51-2P</b>	1.835	46.61	1.615	41.02	1.340	34.04	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	1.455	36.96
<b>51-2S</b>	1.835	46.61	1.615	41.02	1.425	36.20	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	1.455	36.96

# Low Profile Metal and Plastic Shell Micro-D MLDM Metal Shell Solid Wire Termination



Micro-D  
Double and  
Triple Row

## Low Profile MLDM Metal Shell Micro-D With Solid Wire



MLDM2L-31S-4C4-.250B

Low profile MLDM connectors have reduced flange height compared to standard MWDM Micro-D connectors. These .050" pitch Micro-D connectors are supplied with single strand copper wire. Contacts are crimped to wire and potted with epoxy. Pin contacts are gold-plated high performance TwistPin type and are recessed into insulator to prevent damage. Socket contacts are gold plated, machined copper alloy. Machined aluminum shell. Glass-filled high temperature LCP thermoplastic insulators. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +150°C.

### HOW TO ORDER

#### Sample Part Number

MLDM2L	-31	S	-4	C	4	-.250	B
Series	No. of Contacts	Contact Type	Wire Gage (AWG)	Wire Type	Wire Finish	Wire Length (Inches)	Mounting Hardware
<b>MLDM1L</b> Low Profile Metal Shell Micro-D with Yellow Chromate over <b>Cadmium</b> Finish	-9 -15 -21 -25 -31	<b>P</b> Pin Contacts	-4 #24	<b>C</b> Single Strand Copper	<b>3</b> Solder Dipped in 63/37 Tin-Lead	.125 .250 .500 1.000 1.500 2.000	<b>B</b> <b>M</b> <b>M1</b> <b>S</b> <b>S1</b> <b>L</b> <b>F</b> <b>H</b> <b>P</b> <b>K</b> <b>R</b>
<b>MLDM2L</b> Low Profile Metal Shell Micro-D with <b>Electroless</b> <b>Nickel</b> Shell Finish	-37 -51 -51-2	<b>S</b> Socket Contacts	-5 #25 -6 #26	A-A-59551 Type S	<b>4</b> Gold-plated	Wire Length In Inches	
<b>MLDM32L</b> Low Profile Metal Shell Micro-D with <b>Black Zinc</b> <b>Nickel</b> Shell Finish							
<b>MLDM33L</b> Low Profile Metal Shell Micro-D with <b>Nickel-</b> <b>Fluorocarbon</b> Shell Finish							

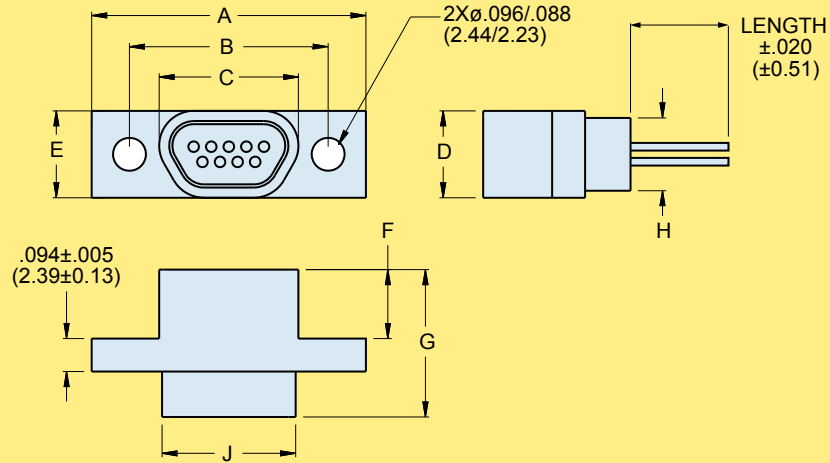
### MOUNTING HARDWARE

B	P	M	M1	S	S1	L	K	F	R	H
Thru-Hole	Jackpost #2-56	Hex Head Jackscrew #2-56	Hex Head Jackscrew, Extended #2-56	Slot Head Jackscrew #2-56	Slot Head Jackscrew, Extended #2-56	Hex Head Jackscrew Non- Removable #2-56	Slot Head Jackscrew Non- Removable Extended #2-56	Float Mount For Front Panel Mounting	Float Mount For Rear Panel Mounting	#2-56 Threaded Insert



# Low Profile Metal and Plastic Shell Micro-D MLDM Metal Shell Solid Wire Termination

## MLDM WITH SOLID WIRE DIMENSIONS



Layout	A Max.		B		C Max.		D Max.		E Max.		F		G Max.		H Max.		J Max.	
	In.	mm.	In. ± .003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.	In. ± .003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.
9P	.788	20.02	.565	14.35	.292	7.42	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.405	10.29
9S	.788	20.02	.565	14.35	.380	9.65	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.405	10.29
15P	.938	23.83	.715	18.16	.442	11.23	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.555	14.10
15S	.938	23.83	.715	18.16	.530	13.46	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.555	14.10
21P	1.088	27.64	.865	21.97	.592	15.04	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.705	17.91
21S	1.080	27.64	.865	21.97	.680	17.27	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.705	17.91
25P	1.188	30.18	.965	24.51	.692	17.58	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.805	20.45
25S	1.185	30.18	.965	24.51	.780	19.81	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.805	20.45
31P	1.338	33.99	1.115	28.32	.842	21.39	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	.955	24.26
31S	1.338	33.99	1.115	28.32	.930	23.62	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	.955	24.26
37P	1.488	37.80	1.265	32.13	.992	25.20	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	1.105	28.07
37S	1.488	37.80	1.265	32.13	1.080	27.43	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	1.105	28.07
51P	1.438	36.53	1.215	30.86	.942	23.93	.177	4.50	.260	6.60	.199	5.05	.390	9.91	.220	5.59	1.058	26.87
51S	1.438	36.53	1.215	30.86	1.030	26.16	.260	6.60	.260	6.60	.180	4.57	.377	9.58	.220	5.59	1.058	26.87
51-2P	1.835	46.61	1.615	41.02	1.340	34.04	.134	3.40	.218	5.54	.199	5.05	.390	9.91	.175	4.45	1.455	36.96
51-2S	1.835	46.61	1.615	41.02	1.425	36.20	.218	5.54	.218	5.54	.180	4.57	.377	9.58	.175	4.45	1.455	36.96

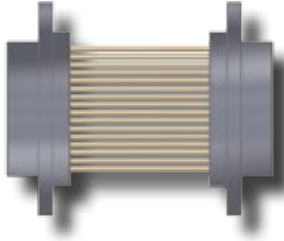


# Low Profile Metal and Plastic Shell Micro-D MLDM Metal Shell Back-To-Back Cables



Micro-D  
Double and  
Triple Row

## Low Profile MLDM Metal Shell Micro-D Back-To-Back Cables



Factory terminated MLDM "back-to-back" jumper cables simplify ordering and reduce assembly labor. Contacts are crimped to wire and potted with epoxy. Pin contacts are gold-plated high performance TwistPin type and are recessed into insulator to prevent damage. Socket contacts are gold plated, machined copper alloy. Aluminum alloy shell. Glass-filled high temperature LCP thermoplastic insulator. M22759/11 standard wire, or M22959/33 lightweight, high strength space grade wire. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +150°C.

### HOW TO ORDER

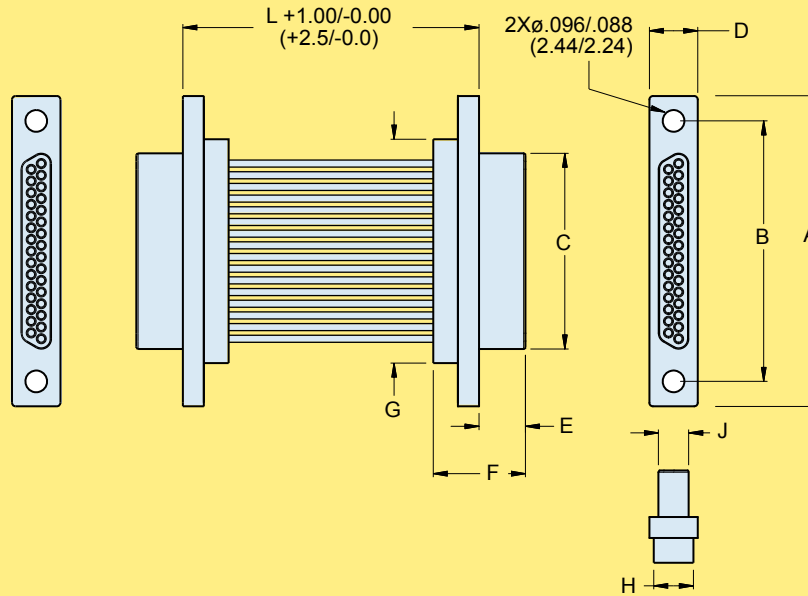
#### Sample Part Number

MLDM32L	-37	GP	-6	K	1	-24	P
Series	No. of Contacts	Connector Type	Wire Gage (AWG)	Wire Type	Wire Color Code	Wire Length (Inches)	Mounting Hardware
<b>MLDM1L</b> Low Profile Metal Shell Micro-D with Yellow Chromate over Cadmium Finish	-9 -15 -21 -25 -31	<b>GP</b> Pin Connector Both Ends	-4 #24	<b>K</b> Standard Wire	<b>1</b> White	Wire Length In Inches	<b>B</b> <b>M</b> <b>M1</b> <b>S</b> <b>S1</b> <b>L</b> <b>P</b> <b>K</b> <b>F</b> <b>R</b> <b>H</b>
<b>MLDM2L</b> Low Profile Metal Shell Micro-D with Electroless Nickel Shell Finish	-37 -51 -51-2	<b>GS</b> Socket Contacts Both Ends	-6 #26 -8 #28	Extruded PTFE per M22759/11, Silver-Plated Conductors (#30 AWG not available)	<b>5</b> Color-Coded per MIL-STD-681	Example: -18 18 inches	
<b>MLDM32L</b> Low Profile Metal Shell Micro-D with Black Zinc Nickel Shell Finish		<b>CS</b> Pin Connector to Socket Connector	-0 #30	<b>J</b> Space Grade Wire	<b>7</b> 10 Color Repeat Wires are solid color per MIL-STD-681 color code system. Wires #1, #11, #21 are black, wires #2, #12, #22 are brown, and so on.	6, 12 and 18 are frequently used lengths.	
<b>MLDM33L</b> Low Profile Metal Shell Micro-D with Nickel-Fluorocarbon Shell Finish				High Strength, Lightweight, Crosslinked Modified ETFE per M22759/33, Silver-Plated Conductors			

### MOUNTING HARDWARE

B	P	M	M1	S	S1	L	K	F	R	H
Thru-Hole	Jackpost #2-56	Hex Head Jackscrew #2-56	Hex Head Jackscrew, Extended #2-56	Slot Head Jackscrew #2-56	Slot Head Jackscrew, Extended #2-56	Hex Head Jackscrew Non-Removable #2-56	Slot Head Jackscrew Non-Removable Extended #2-56	Float Mount For Front Panel Mounting	Float Mount For Rear Panel Mounting	#2-56 Threaded Insert

MLDM BACK-TO-BACK CABLE DIMENSIONS



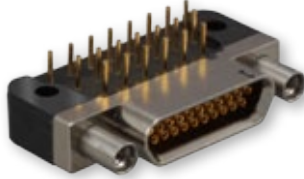
Layout	A Max.		B		C Max.		D Max.		E Max.		F Max.		G Max.		H Max.		J Max.	
	In.	mm.	In. $\pm .003$	mm. $\pm 0.08$	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
9P	.788	20.02	.565	14.35	.292	7.42	.218	5.54	.202	5.13	.395	10.03	.408	10.36	.173	4.39	.134	3.40
9S	.788	20.02	.565	14.35	.380	9.65	.218	5.54	.185	4.70	.375	9.53	.408	10.36	.173	4.39	.218	5.54
15P	.938	23.83	.715	18.16	.442	11.23	.218	5.54	.202	5.13	.395	10.03	.558	14.17	.173	4.39	.134	3.40
15S	.938	23.83	.715	18.16	.530	13.46	.218	5.54	.185	4.70	.375	9.53	.558	14.17	.173	4.39	.218	5.64
21P	1.088	27.64	.865	21.97	.592	15.04	.218	5.54	.202	5.13	.395	10.03	.708	17.98	.173	4.39	.134	3.40
21S	1.080	27.64	.865	21.97	.680	17.27	.218	5.54	.185	4.70	.375	9.53	.708	17.98	.173	4.39	.218	5.64
25P	1.188	30.18	.965	24.51	.692	17.58	.218	5.54	.202	5.13	.395	10.03	.808	20.52	.173	4.39	.134	3.40
25S	1.185	30.18	.965	24.51	.780	19.81	.218	5.54	.185	4.70	.375	9.53	.808	20.52	.173	4.39	.218	5.64
31P	1.338	33.99	1.115	28.32	.842	21.39	.218	5.54	.202	5.13	.395	10.03	.958	24.33	.173	4.39	.134	3.40
31S	1.338	33.99	1.115	28.32	.930	23.62	.218	5.54	.185	4.70	.375	9.53	.958	24.33	.173	4.39	.218	5.64
37P	1.488	37.80	1.265	32.13	.992	25.20	.218	5.54	.202	5.13	.395	10.03	1.108	28.14	.173	4.39	.134	3.40
37S	1.488	37.80	1.265	32.13	1.080	27.43	.218	5.54	.185	4.70	.375	9.53	1.108	28.14	.173	4.39	.218	5.64
51P	1.438	36.53	1.215	30.86	.942	23.93	.260	6.60	.202	5.13	.395	10.03	1.058	26.87	.220	5.59	.177	4.50
51S	1.438	36.53	1.215	30.86	1.030	26.16	.260	6.60	.185	4.70	.375	9.53	1.058	26.87	.220	5.59	.260	6.60
51-2P	1.835	46.61	1.615	41.02	1.340	34.04	.218	5.54	.214	5.44	.199	5.05	.390	9.91	.175	4.45	.134	3.40
51-2S	1.835	46.61	1.615	41.02	1.425	36.20	.218	5.54	.214	5.44	.180	4.57	.377	9.58	.175	4.45	.218	5.54

# Low Profile Metal and Plastic Shell Micro-D MLDM Metal Shell Right Angle Printed Circuit Board



Micro-D  
Double and  
Triple Row

## Low Profile MLDM Metal Shell Micro-D Right Angle Printed Circuit Board



MLDM2L-21SCBRP-110

Low profile MLDM connectors have reduced flange height compared to standard MWDM Micro-D connectors. These thru-hole "CBR" style Micro-D connectors have gold-plated PC tails on .100" centers. Connectors are backfilled with epoxy. Pin contacts are gold-plated high performance TwistPin type and are recessed into insulator to prevent damage. Socket contacts are gold plated, machined copper alloy. Gold-plated PC tails. Machined aluminum shell, stainless steel hardware. Optional #2-56 threaded inserts in board mounting holes. Glass-filled LCP thermoplastic insulators and tray withstand immersion in +260C solder for 10 seconds. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +150°C.

### HOW TO ORDER

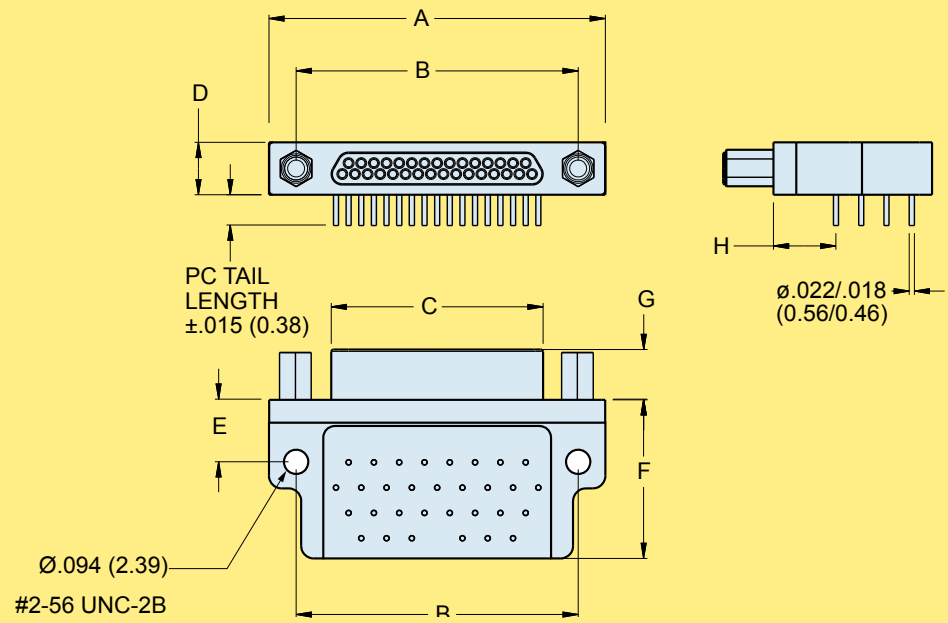
#### Sample Part Number

MLDM2L	-21	S	CBR	P		-.110
Series	No. of Contacts	Contact Type	Termination Type	Hardware Option	Threaded Insert Option	PC Tail Length
<b>MLDM1L</b> Low Profile Metal Shell Micro-D with Yellow Chromate over <b>Cadmium</b> Finish	<b>-9</b> <b>-15</b> <b>-21</b> <b>-25</b> <b>-31</b>	<b>P</b> Pin Contacts	<b>CBR</b> Condensed Board Right Angle	<b>Omit</b> For None	<b>Omit</b> For Thru-Holes	<b>-.110</b> <b>-.125</b> <b>-.150</b> <b>-.190</b> <b>-.250</b>
<b>MLDM2L</b> Low Profile Metal Shell Micro-D with <b>Electroless</b> <b>Nickel</b> Shell Finish	<b>-37</b> <b>-51</b>	<b>S</b> Socket Contacts		<b>P</b> Standard Jackpost (non-removable)	<b>T</b> Threaded Inserts in Board Mounting Holes. #2-56 Female Thread.	
<b>MLDM32L</b> Low Profile Metal Shell Micro-D with <b>Black Zinc</b> <b>Nickel</b> Shell Finish				<b>R1</b> Jackpost for Rear-Panel Mounting, .032" (0.81) Panel Thickness		
<b>MLDM33L</b> Low Profile Metal Shell Micro-D with <b>Nickel-</b> <b>Fluorocarbon</b> Shell Finish				<b>R2</b> Jackpost for Rear-Panel Mounting, .047" (1.19) Panel Thickness		
				<b>R3</b> Jackpost for Rear-Panel Mounting, .062" (1.57) Panel Thickness		
				<b>R4</b> Jackpost for Rear-Panel Mounting, .093" (2.36) Panel Thickness		
				<b>R5</b> Jackpost for Rear-Panel Mounting, .125" (3.18) Panel Thickness		



# Low Profile Metal and Plastic Shell Micro-D MLDM Metal Shell Right Angle Printed Circuit Board

## MLDM CBR DIMENSIONS



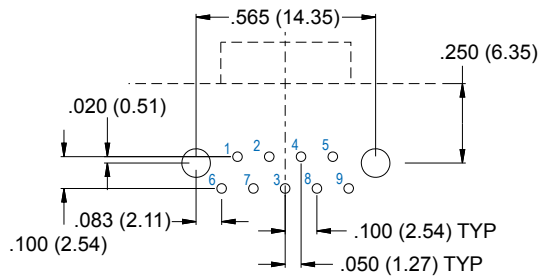
Layout	A Max.		B		C Max.		D Max.		E		F Max.		G Max.		H	
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
9P	.788	20.02	.565	14.35	.292	7.42	.218	5.54	.250	6.35	.425	10.80	.202	5.13	.230	5.84
9S	.788	20.02	.565	14.35	.380	9.65	.218	5.54	.250	6.35	.425	10.80	.185	4.70	.230	5.84
15P	.938	23.83	.715	18.16	.442	11.23	.218	5.54	.250	6.35	.425	10.80	.202	5.13	.130	3.30
15S	.938	23.83	.715	18.16	.530	13.46	.218	5.54	.250	6.35	.425	10.80	.185	4.70	.130	3.30
21P	1.088	27.64	.865	21.97	.592	15.04	.218	5.54	.250	6.35	.425	10.80	.202	5.13	.130	3.30
21S	1.080	27.64	.865	21.97	.680	17.27	.218	5.54	.250	6.35	.425	10.80	.185	4.70	.130	3.30
25P	1.188	30.18	.965	24.51	.692	17.58	.218	5.54	.250	6.35	.425	10.80	.202	5.13	.130	3.30
25S	1.185	30.18	.965	24.51	.780	19.81	.218	5.54	.250	6.35	.425	10.80	.185	4.70	.130	3.30
31P	1.338	33.99	1.115	28.32	.842	21.39	.218	5.54	.250	6.35	.525	13.34	.202	5.13	.130	3.30
31S	1.338	33.99	1.115	28.32	.930	23.62	.218	5.54	.250	6.35	.525	13.34	.185	4.70	.130	3.30
37P	1.488	37.80	1.265	32.13	.992	25.20	.218	5.54	.250	6.35	.525	13.34	.202	5.13	.130	3.30
37S	1.488	37.80	1.265	32.13	1.080	27.43	.218	5.54	.250	6.35	.525	13.34	.185	4.70	.130	3.30
51P	1.438	36.53	1.215	30.86	.942	23.93	.260	6.60	.300	7.62	.660	16.76	.202	5.13	.150	3.81
51S	1.438	36.53	1.215	30.86	1.030	26.16	.260	6.60	.300	7.62	.660	16.76	.185	4.70	.150	3.81

# Low Profile Metal and Plastic Shell Micro-D MLDM Metal Shell Right Angle Printed Circuit Board

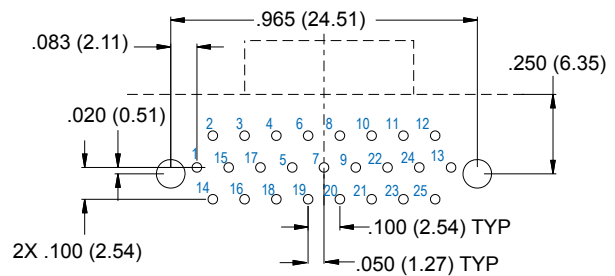


Micro-D  
Double and  
Triple Row

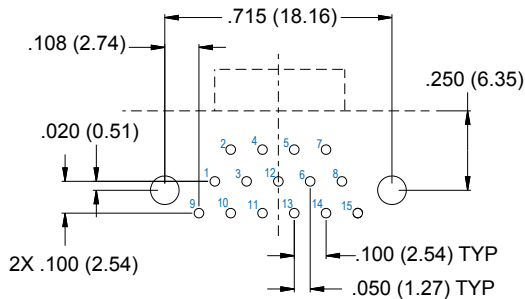
## MLDM CBR PCB LAYOUTS — PIN CONNECTORS



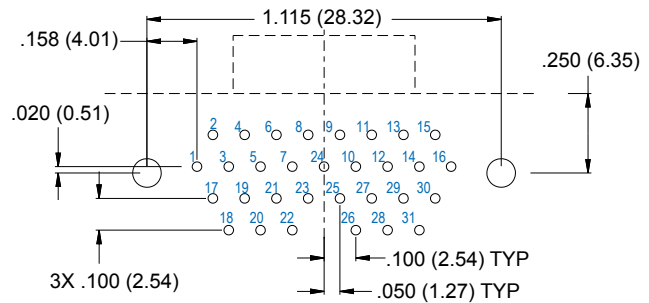
9 PIN



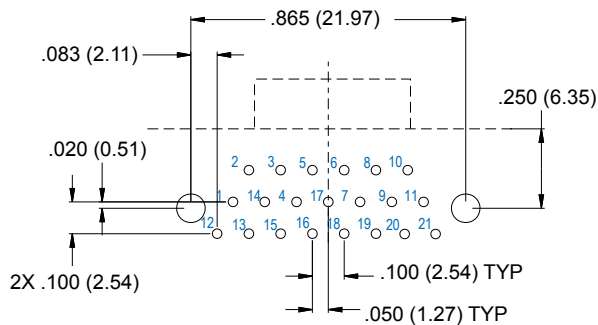
25 PIN



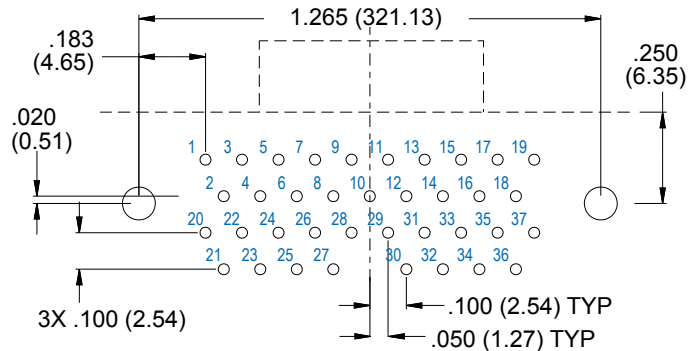
15 PIN



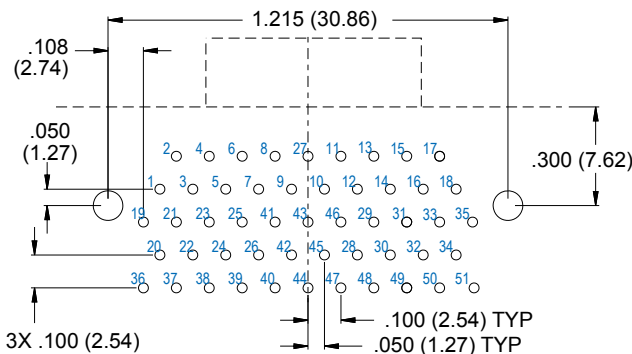
31 PIN



21 PIN



37 PIN



51 PIN

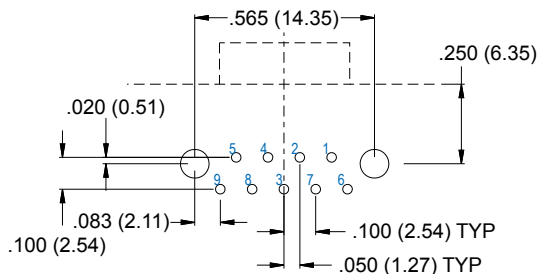
### Notes

1. Patterns shown are for connector mounting side of PC board.
2. Board mounting holes are .094" (2.39) diameter.
3. PC tails are .022" (0.56) maximum diameter.

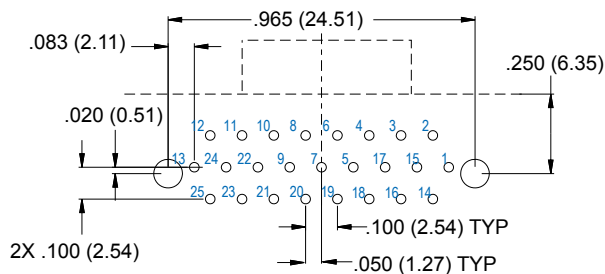


Low Profile Metal and Plastic Shell  
Micro-D MLDM Metal Shell  
Right Angle Printed Circuit Board

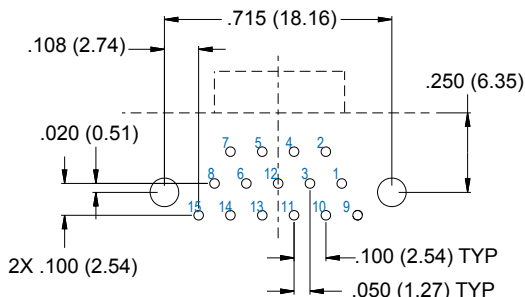
MLDM CBR PCB LAYOUTS — SOCKET CONNECTORS



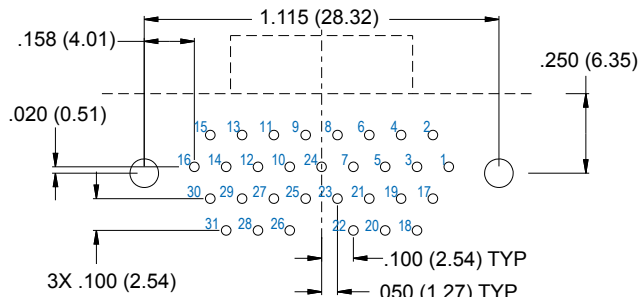
9S



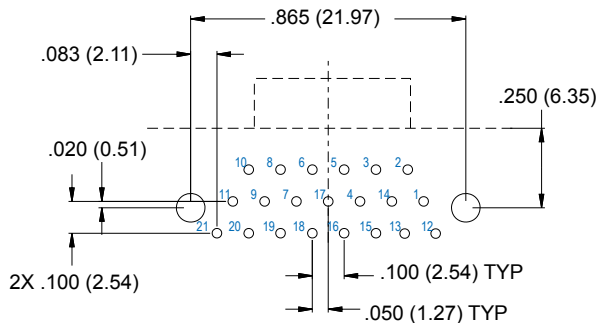
25S



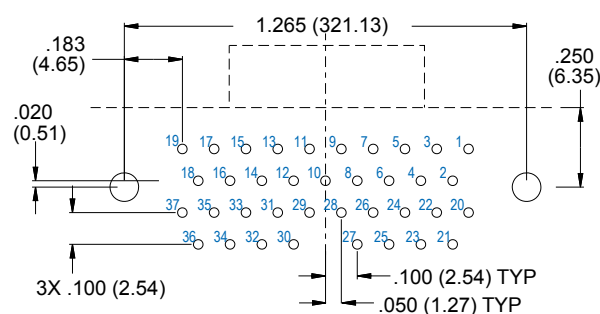
15S



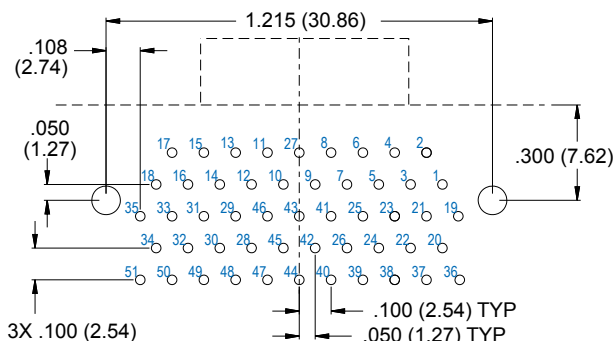
31S



21S



37S



51S

Notes

1. Patterns shown are for connector mounting side of PC board.
2. Board mounting holes are .094" (2.39) diameter.
3. PC tails are .022" (0.56) maximum diameter.

Low Profile Metal and Plastic Shell  
Micro-D MWDL Plastic Shell  
Solder Cup Termination








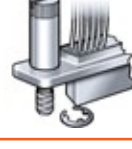
Micro-D  
Double and  
Triple Row

Low Profile MWDL Plastic Shell Micro-D with Solder Cup Contacts



MWDL-25PSB

.050" pitch all-plastic solder cup Micro-D connectors accept #26 to #30 gage wire with standard contacts and up to size #24 wire with "large bore" contacts. Contacts are factory-installed and potted with epoxy. Pin contacts are gold-plated high performance TwistPin type and are recessed into insulator to prevent damage. Socket contacts are gold plated, machined copper alloy. Glass-filled high temperature LCP thermoplastic insulators withstand soldering heat. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +150°C.

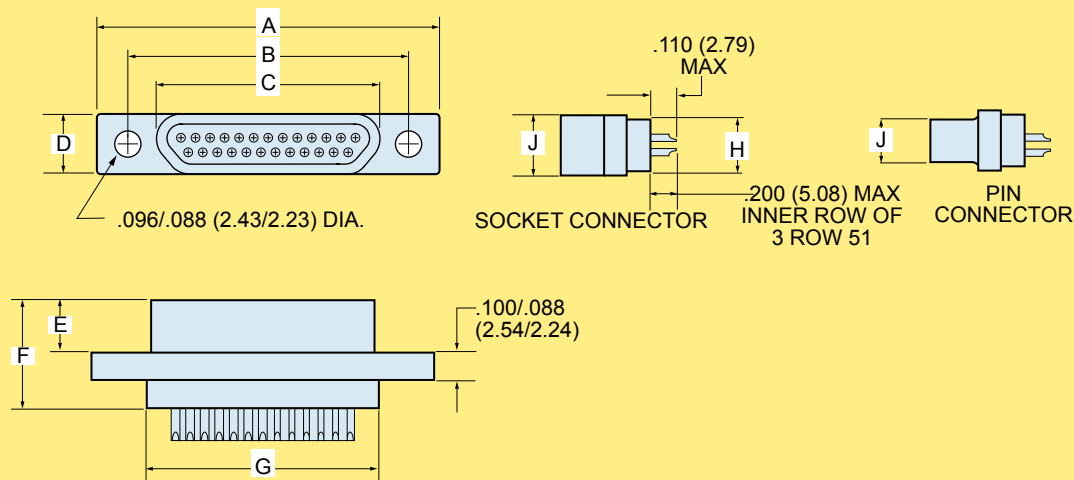
HOW TO ORDER			
Sample Part Number			
MWDL	-25	SS	B
Series	Number of Contacts	Contact Type	Mounting Hardware
<b>MWDL</b> Low Profile Plastic Shell Micro-D	-9 -15 -21 -25 -31 -37 -51	<b>PS</b> Pin Contacts, Size #26 Solder Cup  <b>NS</b> Pin Contacts, Size #24 Solder Cup  <b>SS</b> Socket Contacts, Size #26 Solder Cup  <b>TS</b> Socket Contacts, Size #24 Solder Cup	<b>B</b> Thru-Hole 
			<b>P</b> Jackpost 
			<b>M</b> Jackscrew, Hex Head, Removable 
			<b>M1</b> Jackscrew, Hex Head, Extended, Removable 
			<b>S</b> Jackscrew, Slot Head, Removable 
			<b>S1</b> Jackscrew, Slot Head, Extended, Removable 

E



# Low Profile Metal and Plastic Shell Micro-D MWDL Plastic Shell Solder Cup Termination

## MWDL SOLDER CUP DIMENSIONS



Layout	A Max.		B		C Max.		D Max.		E Max.		F Max.		G Max.		H Max.		J Max.	
	In.	mm.	In. ± .003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
9P	.788	20.02	.565	14.35	.292	7.42	.218	5.54	.202	5.13	.395	10.03	.408	10.36	.173	4.39	.134	3.40
9S	.788	20.02	.565	14.35	.380	9.65	.218	5.54	.185	4.70	.375	9.53	.408	10.36	.173	4.39	.218	5.54
15P	.938	23.83	.715	18.16	.442	11.23	.218	5.54	.202	5.13	.395	10.03	.558	14.17	.173	4.39	.134	3.40
15S	.938	23.83	.715	18.16	.530	13.46	.218	5.54	.185	4.70	.375	9.53	.558	14.17	.173	4.39	.218	5.64
21P	1.088	27.64	.865	21.97	.592	15.04	.218	5.54	.202	5.13	.395	10.03	.708	17.98	.173	4.39	.134	3.40
21S	1.080	27.64	.865	21.97	.680	17.27	.218	5.54	.185	4.70	.375	9.53	.708	17.98	.173	4.39	.218	5.64
25P	1.188	30.18	.965	24.51	.692	17.58	.218	5.54	.202	5.13	.395	10.03	.808	20.52	.173	4.39	.134	3.40
25S	1.185	30.18	.965	24.51	.780	19.81	.218	5.54	.185	4.70	.375	9.53	.808	20.52	.173	4.39	.218	5.64
31P	1.338	33.99	1.115	28.32	.842	21.39	.218	5.54	.202	5.13	.395	10.03	.958	24.33	.173	4.39	.134	3.40
31S	1.338	33.99	1.115	28.32	.930	23.62	.218	5.54	.185	4.70	.375	9.53	.958	24.33	.173	4.39	.218	5.64
37P	1.488	37.80	1.265	32.13	.992	25.20	.218	5.54	.202	5.13	.395	10.03	1.108	28.14	.173	4.39	.134	3.40
37S	1.488	37.80	1.265	32.13	1.080	27.43	.218	5.54	.185	4.70	.375	9.53	1.108	28.14	.173	4.39	.218	5.64
51P	1.438	36.53	1.215	30.86	.942	23.93	.260	6.60	.202	5.13	.395	10.03	1.058	26.87	.220	5.59	.177	4.50
51S	1.438	36.53	1.215	30.86	1.030	26.16	.260	6.60	.185	4.70	.375	9.53	1.058	26.87	.220	5.59	.260	6.60

### PERFORMANCE SPECIFICATIONS

Current Rating	3 AMP
DWV	600 VAC Sea level
Insulation Resistance	5000 Megohms Minimum
Contact Resistance	8 Milliohms Maximum
Operating Temperature	-55° C. to +150° C.
Shock, Vibration	50 g., 20g.
Mating Force	(10 Ounces) X (# of Contacts)

### MATERIALS AND FINISHES

Connector Body	Liquid Crystal Polymer (LCP), Glass-filled
Pin Contact	Beryllium Copper, Gold over Nickel Plating
Socket Contact	Copper Alloy, Gold Over Nickel Plating
Hardware	300 Series Stainless Steel
Encapsulant	Epoxy

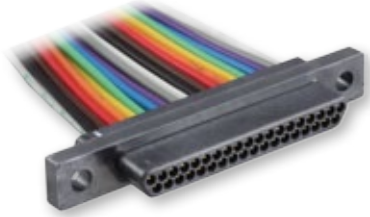


# Low Profile Metal and Plastic Shell Micro-D MWDL Plastic Shell Insulated Wire Pigtails



Micro-D  
Double and  
Triple Row

## Low Profile MWDL Plastic Shell Micro-D with Insulated Wire Termination



MWDL-37P-6K7-18B

All-Plastic MWDL connectors are supplied with stranded mil spec hookup wire. Contacts are crimped to wire and potted with epoxy. Pin contacts are gold-plated high performance TwistPin type and are recessed into insulator to prevent damage. Socket contacts are gold plated, machined copper alloy. Glass-filled high temperature LCP thermoplastic connector body. M22759/11 standard wire, or M22959/33 lightweight, high strength space grade wire. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +150°C.

### HOW TO ORDER

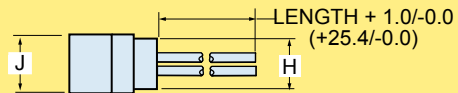
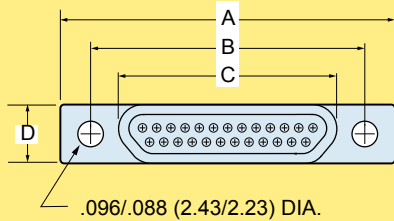
#### Sample Part Number

MWDL	-37	P	-6	K	5	-18	M
Series	No. of Contacts	Contact Type	Wire Gage (AWG)	Wire Type	Wire Color Code	Wire Length (Inches)	Mounting Hardware
MWDL Low Profile Plastic Shell Micro-D	-9 -15 -21 -25 -31 -37 -51	P Pin Contacts  S Socket Contacts	-4 #24  -6 #26  -8 #28  -0 #30	K Standard Wire  Extruded PTFE per M22759/11, Silver-Plated Conductors (#30 AWG not available)  J Space Grade Wire  High Strength, Lightweight, Crosslinked Modified ETFE per M22759/33, Silver-Plated Conductors	1 White  5 Color-Coded per MIL-STD-681  7 10 Color Repeat Wires are solid color per MIL-STD-681 color code system. Wires #1, #11, #21 are black, wires #2, #12, #22 are brown, and so on.	Wire Length In Inches  Example:  -18 18 inches  6, 12 and 18 are frequently used lengths.	B M M1 S S1 P  See Mounting Hardware Table Below

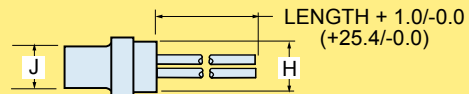
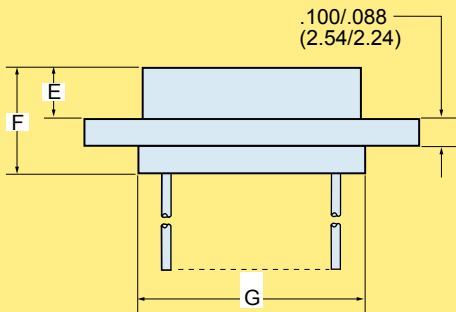
### MOUNTING HARDWARE

B	P	M	M1	S	S1
Thru-Hole	Jackpost #2-56	Hex Head Jackscrew #2-56	Hex Head Jackscrew, Extended #2-56	Slot Head Jackscrew #2-56	Slot Head Jackscrew, Extended #2-56

MWDL INSULATED WIRE PIGTAIL DIMENSIONS



SOCKET CONNECTOR



PIN CONNECTOR

Layout	A Max.		B		C Max.		D Max.		E Max.		F Max.		G Max.		H Max.		J Max.	
	In.	mm.	In. ± .003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
9P	.788	20.02	.565	14.35	.292	7.42	.218	5.54	.202	5.13	.395	10.03	.408	10.36	.173	4.39	.134	3.40
9S	.788	20.02	.565	14.35	.380	9.65	.218	5.54	.185	4.70	.375	9.53	.408	10.36	.173	4.39	.218	5.54
15P	.938	23.83	.715	18.16	.442	11.23	.218	5.54	.202	5.13	.395	10.03	.558	14.17	.173	4.39	.134	3.40
15S	.938	23.83	.715	18.16	.530	13.46	.218	5.54	.185	4.70	.375	9.53	.558	14.17	.173	4.39	.218	5.64
21P	1.088	27.64	.865	21.97	.592	15.04	.218	5.54	.202	5.13	.395	10.03	.708	17.98	.173	4.39	.134	3.40
21S	1.080	27.64	.865	21.97	.680	17.27	.218	5.54	.185	4.70	.375	9.53	.708	17.98	.173	4.39	.218	5.64
25P	1.188	30.18	.965	24.51	.692	17.58	.218	5.54	.202	5.13	.395	10.03	.808	20.52	.173	4.39	.134	3.40
25S	1.185	30.18	.965	24.51	.780	19.81	.218	5.54	.185	4.70	.375	9.53	.808	20.52	.173	4.39	.218	5.64
31P	1.338	33.99	1.115	28.32	.842	21.39	.218	5.54	.202	5.13	.395	10.03	.958	24.33	.173	4.39	.134	3.40
31S	1.338	33.99	1.115	28.32	.930	23.62	.218	5.54	.185	4.70	.375	9.53	.958	24.33	.173	4.39	.218	5.64
37P	1.488	37.80	1.265	32.13	.992	25.20	.218	5.54	.202	5.13	.395	10.03	1.108	28.14	.173	4.39	.134	3.40
37S	1.488	37.80	1.265	32.13	1.080	27.43	.218	5.54	.185	4.70	.375	9.53	1.108	28.14	.173	4.39	.218	5.64
51P	1.438	36.53	1.215	30.86	.942	23.93	.260	6.60	.202	5.13	.395	10.03	1.058	26.87	.220	5.59	.177	4.50
51S	1.438	36.53	1.215	30.86	1.030	26.16	.260	6.60	.185	4.70	.375	9.53	1.058	26.87	.220	5.59	.260	6.60

PERFORMANCE SPECIFICATIONS

Current Rating	3 AMP
DWV	600 VAC Sea level
Insulation Resistance	5000 Megohms Minimum
Contact Resistance	8 Milliohms Maximum
Operating Temperature	-55° C. to +150° C.
Shock, Vibration	50 g., 20g.
Mating Force	(10 Ounces) X (# of Contacts)

MATERIALS AND FINISHES

Connector Body	Liquid Crystal Polymer (LCP), Glass-filled
Pin Contact	Beryllium Copper, Gold over Nickel Plating
Socket Contact	Copper Alloy, Gold Over Nickel Plating
Hardware	300 Series Stainless Steel
Encapsulant	Epoxy

# Low Profile Metal and Plastic Shell Micro-D MWDL Plastic Shell Solid Wire Termination



Micro-D  
Double and  
Triple Row

## Low Profile MWDL Plastic Shell Micro-D with Solid Wire Termination



MWDL-15S-5C3-.500B

These all-plastic MWDL connectors are supplied with single strand copper wire. Contacts are crimped to wire and potted with epoxy. Pin contacts are gold-plated high performance TwistPin type and are recessed into insulator to prevent damage. Socket contacts are gold plated, machined copper alloy. Glass-filled high temperature LCP thermoplastic connector body. Choose gold-plated wire or pre-tinned with 63/37 tin-lead solder. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600Vac, -55°C to +150°C.

HOW TO ORDER									
Sample Part Number									
MWDL	-31	S	-4	C	4	-.250	B		
Series	No. of Contacts	Contact Type	Wire Gage (AWG)	Wire Type	Wire Finish	Wire Length (Inches)	Mounting Hardware		
MWDL Low Profile Plastic Shell Micro-D	-9	P Pin Contacts	-4 #24	C Single Strand Copper	3 Solder Dipped in 63/37 Tin-Lead	.125	B M M1 S S1 P  See Mounting Hardware Table Below		
	-15		S Socket Contacts			-5 #25		4 Gold-plated	.250
	-21					1.000			
	-25	1.500							
	-31	2.000							
	-37								
-51									
						Wire Length In Inches			

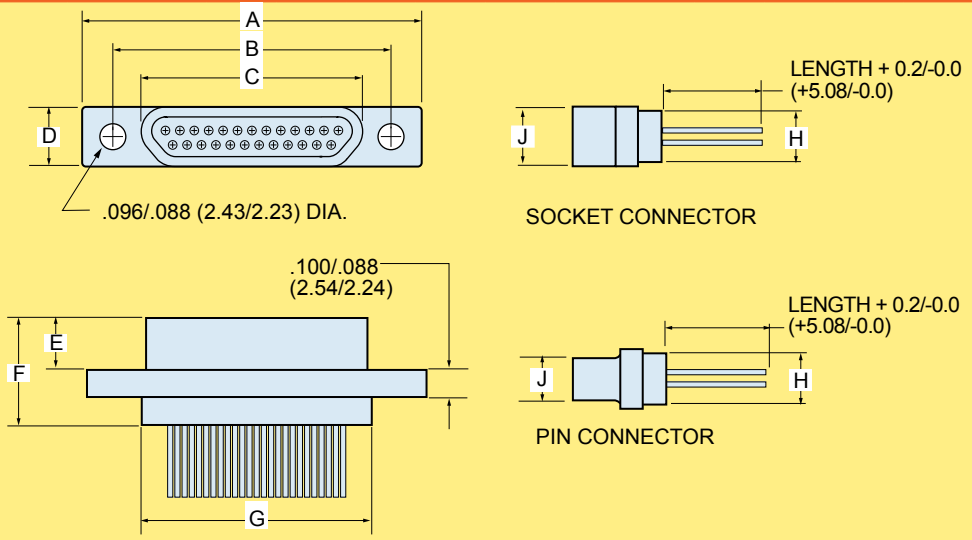
MOUNTING HARDWARE					
B	P	M	M1	S	S1
Thru-Hole	Jackpost #2-56	Hex Head Jackscrew #2-56	Hex Head Jackscrew, Extended #2-56	Slot Head Jackscrew #2-56	Slot Head Jackscrew, Extended #2-56

E



# Low Profile Metal and Plastic Shell Micro-D MWDL Plastic Shell Solid Wire Termination

## MWDL SOLID WIRE PIGTAIL DIMENSIONS



Layout	A Max.		B		C Max.		D Max.		E Max.		F Max.		G Max.		H Max.		J Max.	
	In.	mm.	In. ± .003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
9P	.788	20.02	.565	14.35	.292	7.42	.218	5.54	.202	5.13	.395	10.03	.408	10.36	.173	4.39	.134	3.40
9S	.788	20.02	.565	14.35	.380	9.65	.218	5.54	.185	4.70	.375	9.53	.408	10.36	.173	4.39	.218	5.54
15P	.938	23.83	.715	18.16	.442	11.23	.218	5.54	.202	5.13	.395	10.03	.558	14.17	.173	4.39	.134	3.40
15S	.938	23.83	.715	18.16	.530	13.46	.218	5.54	.185	4.70	.375	9.53	.558	14.17	.173	4.39	.218	5.64
21P	1.088	27.64	.865	21.97	.592	15.04	.218	5.54	.202	5.13	.395	10.03	.708	17.98	.173	4.39	.134	3.40
21S	1.080	27.64	.865	21.97	.680	17.27	.218	5.54	.185	4.70	.375	9.53	.708	17.98	.173	4.39	.218	5.64
25P	1.188	30.18	.965	24.51	.692	17.58	.218	5.54	.202	5.13	.395	10.03	.808	20.52	.173	4.39	.134	3.40
25S	1.185	30.18	.965	24.51	.780	19.81	.218	5.54	.185	4.70	.375	9.53	.808	20.52	.173	4.39	.218	5.64
31P	1.338	33.99	1.115	28.32	.842	21.39	.218	5.54	.202	5.13	.395	10.03	.958	24.33	.173	4.39	.134	3.40
31S	1.338	33.99	1.115	28.32	.930	23.62	.218	5.54	.185	4.70	.375	9.53	.958	24.33	.173	4.39	.218	5.64
37P	1.488	37.80	1.265	32.13	.992	25.20	.218	5.54	.202	5.13	.395	10.03	1.108	28.14	.173	4.39	.134	3.40
37S	1.488	37.80	1.265	32.13	1.080	27.43	.218	5.54	.185	4.70	.375	9.53	1.108	28.14	.173	4.39	.218	5.64
51P	1.438	36.53	1.215	30.86	.942	23.93	.260	6.60	.202	5.13	.395	10.03	1.058	26.87	.220	5.59	.177	4.50
51S	1.438	36.53	1.215	30.86	1.030	26.16	.260	6.60	.185	4.70	.375	9.53	1.058	26.87	.220	5.59	.260	6.60

PERFORMANCE SPECIFICATIONS	
Current Rating	3 AMP
DWV	600 VAC Sea level
Insulation Resistance	5000 Megohms Minimum
Contact Resistance	8 Milliohms Maximum
Operating Temperature	-55° C. to +150° C.
Shock, Vibration	50 g., 20g.
Mating Force	(10 Ounces) X (# of Contacts)

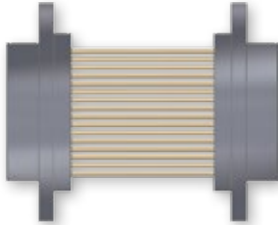
MATERIALS AND FINISHES	
Connector Body	Liquid Crystal Polymer (LCP), Glass-filled
Pin Contact	Beryllium Copper, Gold over Nickel Plating
Socket Contact	Copper Alloy, Gold Over Nickel Plating
Hardware	300 Series Stainless Steel
Encapsulant	Epoxy

# Low Profile Metal and Plastic Shell Micro-D MWDL Plastic Shell Back-To-Back Cables



Micro-D  
Double and  
Triple Row

## Low Profile MWDL Plastic Shell Micro-D Back-To-Back Cables



Factory terminated all-plastic "back-to-back" jumper cables simplify ordering and reduce assembly labor. Contacts are crimped to wire and potted with epoxy. Pin contacts are gold-plated high performance TwistPin type and are recessed into insulator to prevent damage. Socket contacts are gold plated, machined copper alloy. Glass-filled high temperature LCP thermoplastic connector body. M22759/11 standard wire, or M22959/33 lightweight, high strength space grade wire. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +150°C.

### HOW TO ORDER

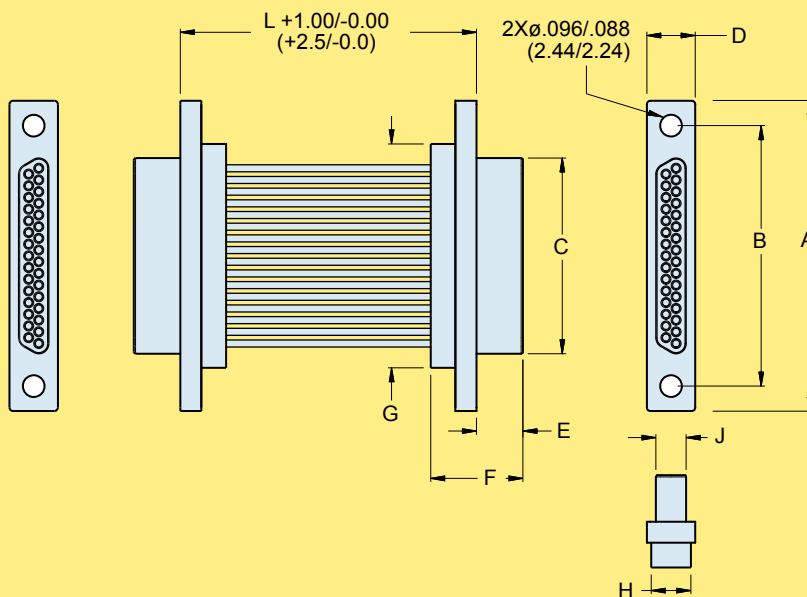
#### Sample Part Number

MWDL	-37	GP	-6	K	1	-24	P
Series	No. of Contacts	Connector Type	Wire Gage (AWG)	Wire Type	Wire Color Code	Wire Length (Inches)	Mounting Hardware
<b>MWDL</b> Low Profile Plastic Shell Micro-D	<b>-9</b> <b>-15</b> <b>-21</b> <b>-25</b> <b>-31</b> <b>-37</b> <b>-51</b>	<b>GP</b> Pin Connector Both Ends  <b>GS</b> Socket Contacts Both Ends  <b>CS</b> Pin Connector to Socket Connector	<b>-4</b> #24  <b>-6</b> #26  <b>-8</b> #28  <b>-0</b> #30	<b>K</b> Standard Wire  Extruded PTFE per M22759/11, Silver-Plated Conductors (#30 AWG not available)  <b>J</b> Space Grade Wire  High Strength, Lightweight, Crosslinked Modified ETFE per M22759/33, Silver-Plated Conductors	<b>1</b> White  <b>5</b> Color-Coded per MIL-STD-681 Wires 1-10 are solid color, 11-up are striped.  <b>7</b> 10 Color Repeat Wires are solid color per MIL-STD-681 color code system. Wires #1, #11, #21 are black, wires #2, #12, #22 are brown, and so on.	Wire Length In Inches  Example: <b>-18</b> 18 inches  6, 12 and 18 are frequently used lengths.	<b>B</b> <b>M</b> <b>M1</b> <b>S</b> <b>S1</b> <b>P</b>  See Mounting Hardware Table Below

### MOUNTING HARDWARE

B	P	M	M1	S	S1
Thru-Hole	Jackpost #2-56	Hex Head Jackscrew #2-56	Hex Head Jackscrew, Extended #2-56	Slot Head Jackscrew #2-56	Slot Head Jackscrew, Extended #2-56

MWDL BACK-TO-BACK CABLE DIMENSIONS



Layout	A Max.		B		C Max.		D Max.		E Max.		F Max.		G Max.		H Max.		J Max.	
	In.	mm.	In. ± .003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
9P	.788	20.02	.565	14.35	.292	7.42	.218	5.54	.202	5.13	.395	10.03	.408	10.36	.173	4.39	.134	3.40
9S	.788	20.02	.565	14.35	.380	9.65	.218	5.54	.185	4.70	.375	9.53	.408	10.36	.173	4.39	.218	5.54
15P	.938	23.83	.715	18.16	.442	11.23	.218	5.54	.202	5.13	.395	10.03	.558	14.17	.173	4.39	.134	3.40
15S	.938	23.83	.715	18.16	.530	13.46	.218	5.54	.185	4.70	.375	9.53	.558	14.17	.173	4.39	.218	5.54
21P	1.088	27.64	.865	21.97	.592	15.04	.218	5.54	.202	5.13	.395	10.03	.708	17.98	.173	4.39	.134	3.40
21S	1.080	27.64	.865	21.97	.680	17.27	.218	5.54	.185	4.70	.375	9.53	.708	17.98	.173	4.39	.218	5.54
25P	1.188	30.18	.965	24.51	.692	17.58	.218	5.54	.202	5.13	.395	10.03	.808	20.52	.173	4.39	.134	3.40
25S	1.185	30.18	.965	24.51	.780	19.81	.218	5.54	.185	4.70	.375	9.53	.808	20.52	.173	4.39	.218	5.54
31P	1.338	33.99	1.115	28.32	.842	21.39	.218	5.54	.202	5.13	.395	10.03	.958	24.33	.173	4.39	.134	3.40
31S	1.338	33.99	1.115	28.32	.930	23.62	.218	5.54	.185	4.70	.375	9.53	.958	24.33	.173	4.39	.218	5.54
37P	1.488	37.80	1.265	32.13	.992	25.20	.218	5.54	.202	5.13	.395	10.03	1.108	28.14	.173	4.39	.134	3.40
37S	1.488	37.80	1.265	32.13	1.080	27.43	.218	5.54	.185	4.70	.375	9.53	1.108	28.14	.173	4.39	.218	5.54
51P	1.438	36.53	1.215	30.86	.942	23.93	.260	6.60	.202	5.13	.395	10.03	1.058	26.87	.220	5.59	.177	4.50
51S	1.438	36.53	1.215	30.86	1.030	26.16	.260	6.60	.185	4.70	.375	9.53	1.058	26.87	.220	5.59	.260	6.60

PERFORMANCE SPECIFICATIONS

Current Rating	3 AMP
DWV	600 VAC Sea level
Insulation Resistance	5000 Megohms Minimum
Contact Resistance	8 Milliohms Maximum
Operating Temperature	-55° C. to +150° C.
Shock, Vibration	50 g., 20g.
Mating Force	(10 Ounces) X (# of Contacts)

MATERIALS AND FINISHES

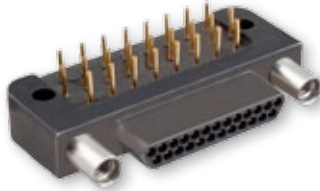
Connector Body	Liquid Crystal Polymer (LCP), Glass-filled
Pin Contact	Beryllium Copper, Gold over Nickel Plating
Socket Contact	Copper Alloy, Gold Over Nickel Plating
Hardware	300 Series Stainless Steel
Encapsulant	Epoxy

Low Profile Metal and Plastic Shell  
Micro-D MWDL Plastic Shell  
Right Angle PCB



Micro-D  
Double and  
Triple Row

Low Profile MWDL Plastic Shell Micro-D Right Angle Printed Circuit Board



MWDL-25PCBRP-.110

Low profile MWDL connectors have reduced flange height compared to standard MWDM Micro-D connectors. These thru-hole "CBR" style Micro-D connectors have gold-plated PC tails on .100" centers. Connectors are backfilled with epoxy. Pin contacts are gold-plated high performance TwistPin type and are recessed into insulator to prevent damage. Socket contacts are gold plated, machined copper alloy. Stainless steel hardware. Optional #2-56 threaded inserts in board mounting holes. Glass-filled LCP thermoplastic insulators and tray withstand immersion in +260C solder for 10 seconds. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +150°C.

HOW TO ORDER

Sample Part Number

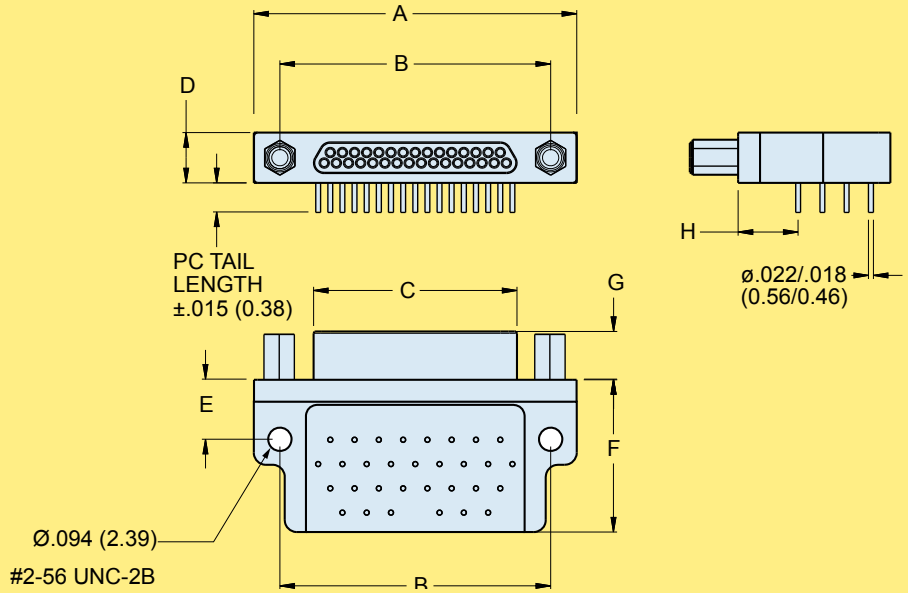
MWDL	-21	S	CBR	P		-.110
Series	No. of Contacts	Contact Type	Termination Type	Hardware Option	Threaded Insert Option	PC Tail Length
<b>MWDL</b> Low Profile Plastic Shell Micro-D	-9	<b>P</b>	<b>CBR</b>	<b>Omit</b>	<b>Omit</b>	<b>-.110</b>
	-15	Pin	Condensed	For None	For Thru-	<b>-.125</b>
	-21	Contacts	Board Right		Holes	<b>-.150</b>
	-25		Angle	<b>P</b>		<b>-.190</b>
	-31	<b>S</b>		Standard Jackpost (non-	<b>T</b>	<b>-.250</b>
	-37	Socket		removable)	Threaded	
-51	Contacts			Inserts		
				<b>R1</b>	in Board	
				Jackpost for Rear-Panel	Mounting	
				Mounting, .032" (0.81)	Holes. #2-	
				Panel Thickness	56 Female	
				<b>R2</b>	Thread.	
				Jackpost for Rear-Panel		
				Mounting, .047" (1.19)		
				Panel Thickness		
				<b>R3</b>		
				Jackpost for Rear-Panel		
				Mounting, .062" (1.57)		
				Panel Thickness		
				<b>R4</b>		
				Jackpost for Rear-Panel		
				Mounting, .093" (2.36)		
				Panel Thickness		
				<b>R5</b>		
				Jackpost for Rear-Panel		
				Mounting, .125" (3.18)		
				Panel Thickness		

E



# Low Profile Metal and Plastic Shell Micro-D MWDL Plastic Shell Right Angle PCB

## MWDL CBR DIMENSIONS



Layout	A Max.		B		C Max.		D Max.		E		F Max.		G Max.		H	
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
9P	.788	20.02	.565	14.35	.292	7.42	.218	5.54	.250	6.35	.425	10.80	.202	5.13	.230	5.84
9S	.788	20.02	.565	14.35	.380	9.65	.218	5.54	.250	6.35	.425	10.80	.185	4.70	.230	5.84
15P	.938	23.83	.715	18.16	.442	11.23	.218	5.54	.250	6.35	.425	10.80	.202	5.13	.130	3.30
15S	.938	23.83	.715	18.16	.530	13.46	.218	5.54	.250	6.35	.425	10.80	.185	4.70	.130	3.30
21P	1.088	27.64	.865	21.97	.592	15.04	.218	5.54	.250	6.35	.425	10.80	.202	5.13	.130	3.30
21S	1.080	27.64	.865	21.97	.680	17.27	.218	5.54	.250	6.35	.425	10.80	.185	4.70	.130	3.30
25P	1.188	30.18	.965	24.51	.692	17.58	.218	5.54	.250	6.35	.425	10.80	.202	5.13	.130	3.30
25S	1.185	30.18	.965	24.51	.780	19.81	.218	5.54	.250	6.35	.425	10.80	.185	4.70	.130	3.30
31P	1.338	33.99	1.115	28.32	.842	21.39	.218	5.54	.250	6.35	.525	13.34	.202	5.13	.130	3.30
31S	1.338	33.99	1.115	28.32	.930	23.62	.218	5.54	.250	6.35	.525	13.34	.185	4.70	.130	3.30
37P	1.488	37.80	1.265	32.13	.992	25.20	.218	5.54	.250	6.35	.525	13.34	.202	5.13	.130	3.30
37S	1.488	37.80	1.265	32.13	1.080	27.43	.218	5.54	.250	6.35	.525	13.34	.185	4.70	.130	3.30
51P	1.438	36.53	1.215	30.86	.942	23.93	.260	6.60	.300	7.62	.660	16.76	.202	5.13	.150	3.81
51S	1.438	36.53	1.215	30.86	1.030	26.16	.260	6.60	.300	7.62	.660	16.76	.185	4.70	.150	3.81

PERFORMANCE SPECIFICATIONS	
Current Rating	3 AMP
DWV	600 VAC Sea level
Insulation Resistance	5000 Megohms Minimum
Contact Resistance	8 Milliohms Maximum
Operating Temperature	-55° C. to +150° C.
Shock, Vibration	50 g., 20g.
Mating Force	(10 Ounces) X (# of Contacts)

MATERIALS AND FINISHES	
Connector Body	Liquid Crystal Polymer (LCP), Glass-filled
Pin Contact	Beryllium Copper, Gold over Nickel Plating
Socket Contact	Copper Alloy, Gold Over Nickel Plating
Hardware	300 Series Stainless Steel
Encapsulant	Epoxy

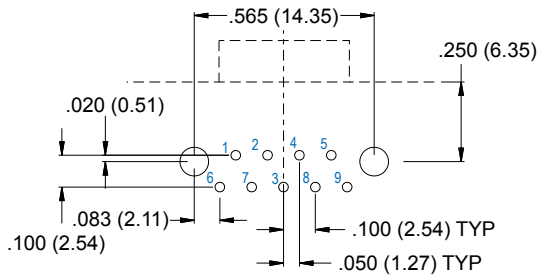


# Low Profile Metal and Plastic Shell Micro-D MWDL Plastic Shell Right Angle PCB

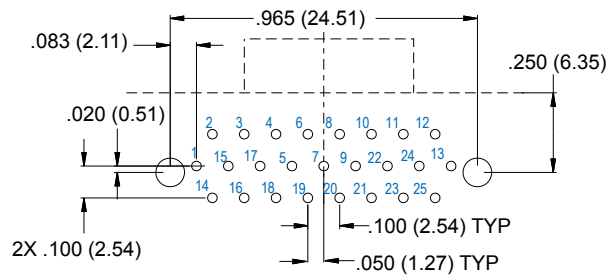


Micro-D  
Double and  
Triple Row

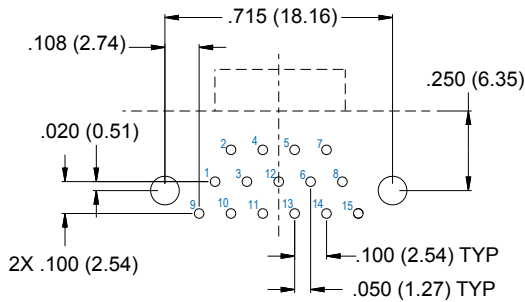
## MWDL CBR PCB LAYOUTS — PIN CONNECTORS



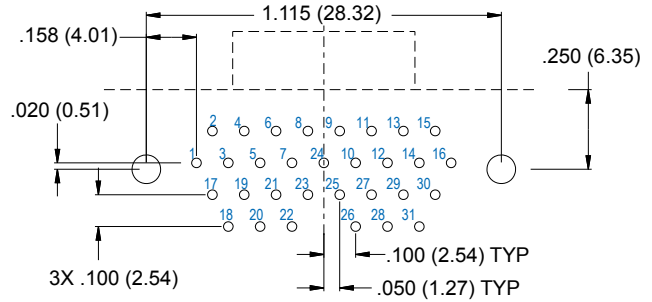
9 PIN



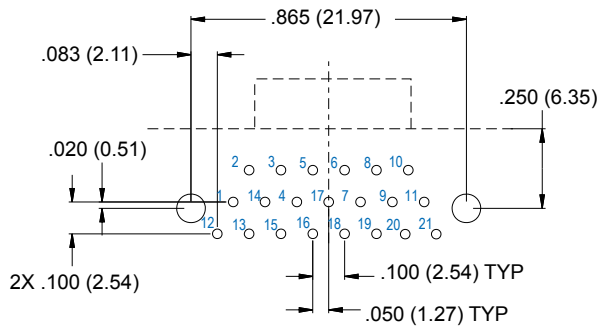
25 PIN



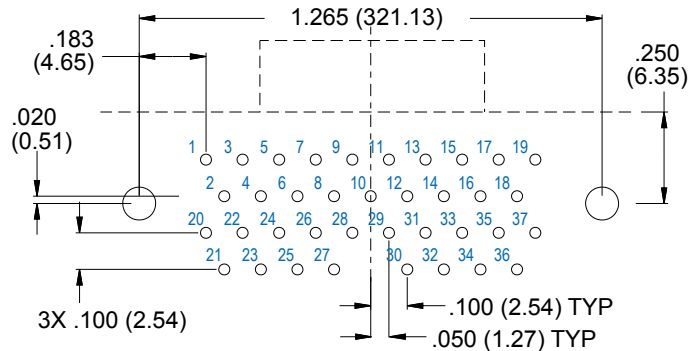
15 PIN



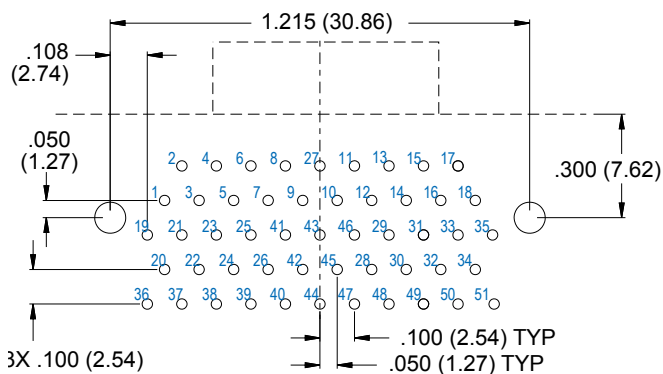
31 PIN



21 PIN



37 PIN



51 PIN

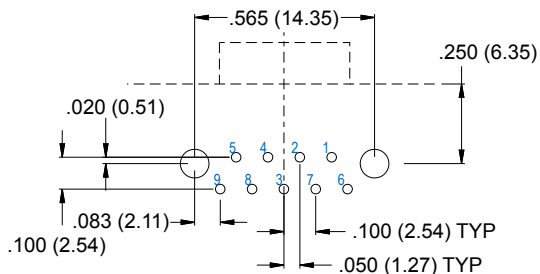
### Notes

1. Patterns shown are for connector mounting side of PCB board.
2. Board mounting holes are .094" (2.39) diameter.
3. PC tails are .022" (0.56) maximum diameter.

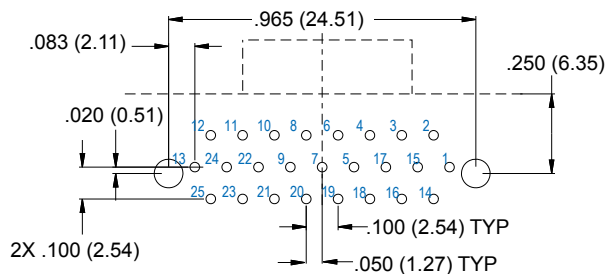


# Low Profile Metal and Plastic Shell Micro-D MWDL Plastic Shell Right Angle PCB

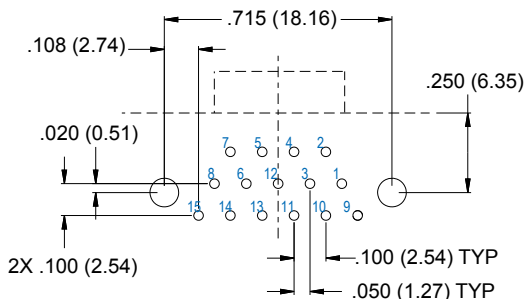
## MLDM CBR PCB LAYOUTS — SOCKET CONNECTORS



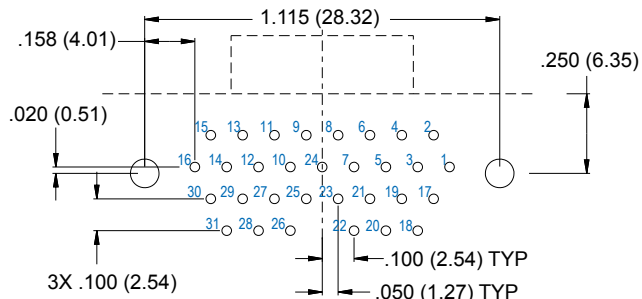
9S



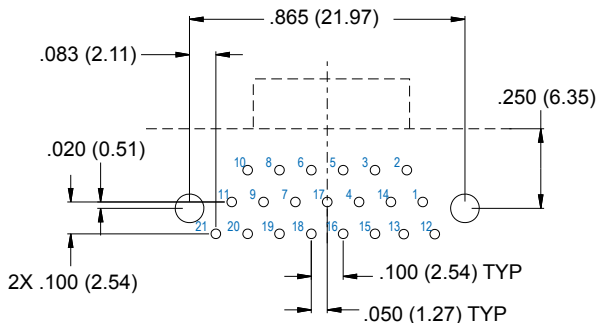
25S



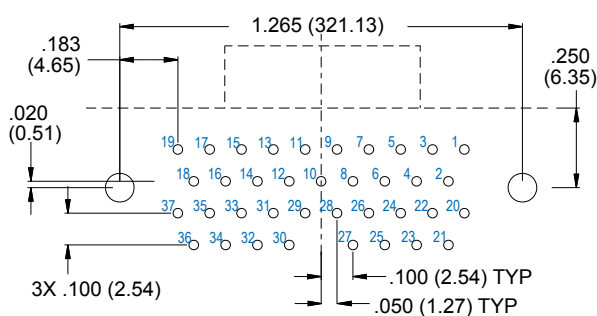
15S



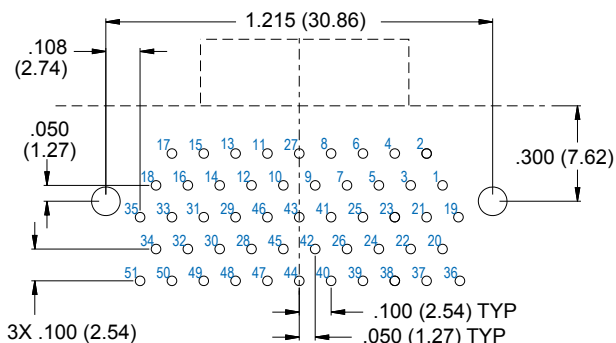
31S



21S



37S



51S

### Notes

1. Patterns shown are for connector mounting side of PCB board.
2. Board mounting holes are .094" (2.39) diameter.
3. PC tails are .022" (0.56) maximum diameter.