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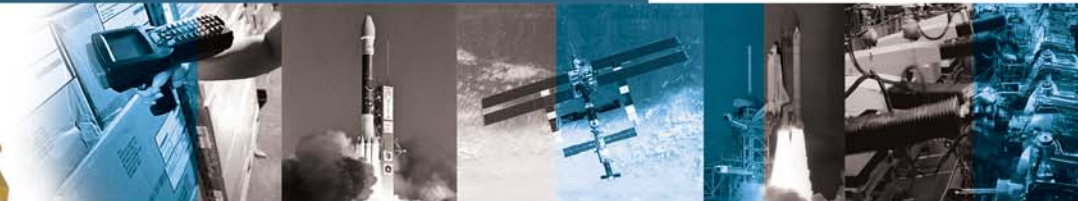
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# Cannon Microminiature Connectors



# Cannon Microminiature Products



## High Performance Micro Miniature Connectors

ITT Cannon is a division of ITT Inc. Developed first by Cannon in the 1960s, Cannon's Micro Connector portfolio has witnessed many product extensions since then, and it remains the most extensive in the industry, offering the most reliable and cost effective range of micro interconnect solutions. These innovations have enabled ITT to provide products and technologies to such markets as:

- Aerospace
- Computers Systems
- Defense Electronics
- Geophysical
- Industrial Automation
- Medical Electronics
- Network Systems
- Telecom Switching
- Underwater Systems
- Wireless

Offering the broadest selections of standard and custom micro interconnect solutions, ITT is the one stop source for design, development, manufacturing, and test of sophisticated multi channel high density connectors. Our product portfolio consists of rectangular, circular, quick disconnect, high speed signal, filter, hermetic, mixed signal packages, and strip style interconnects. Each product has unique mechanical engagement and locking mechanisms to meet the demands of harsh environment applications. These products include our Centi Line .100-inch and .075-inch center spacing, the Micro line .050 inch center spacing, and our Nano line of .025-inch center contact spacing. All of ITT's micro connectors utilize our twist pin contact

system, developed by ITT in the early 1960's. A separate section describes in detail the twist pin electrical contact technology (refer to page 6).

## The Standard of Six Sigma

When you specify a Cannon microminiature connector, you can rely on a product designed, developed, and manufactured to the highest quality and reliability standards in the industry. This tradition of excellence is based on ITT's corporate culture of operating its entire business under the



principles of Six Sigma. At ITT, Six Sigma is not just a quality philosophy but a complete corporate culture that drives the entire business. Our Value Based Management and Value Based Product Development systems are two cornerstones of ITT that allows for the development of both leadership and product development principles, ensuring that the correct industry leading products are



developed to the accepted market driven lead times. These principles have allowed ITT to become the market leader

in all of our business portfolios.

## Six Sigma Engineering

ITT, utilizing its six sigma tools and multiple lean initiatives, offers the most experienced engineering design team in



the micro miniature interconnect field. Using our systems approach, ITT continues to advance new interconnect technologies by developing advanced products including higher density Nano 0.025-inch spacing interconnects, Chip-on-Flex filter connectors, flexible high density circuits terminated directly to ITT contacts, and innovative high speed mixed signal connector configurations.

In conjunction with our design teams, ITT operates a world class test lab offering state of the art capabilities in electronic, fiber optic, and mechanical test expertise. Our certified test engineers and technicians can develop a specific test plan based on our customer's specific needs. Additionally, our team is experienced in providing test services and programs for US DOD Defense electronics and Space related programs.



## Six Sigma Manufacturing

ITT operates manufacturing facilities in the United States, France, Germany, Italy, Mexico, China, and the UK, all of



ITT

# Cannon Microminiature Products

which have particular product area strengths allowing ITT to offer a truly global footprint to our customers. Our facilities are world class and accommodate full vertical integration with the latest manufacturing technologies including: automated and robotic machining centers, Super Market manufacturing cells, Kanban pull systems, and automated electrical,



mechanical, and optical test and inspection equipment. The combination of our manufacturing strength and our advanced manufacturing facilities allows ITT to offer products at market driven prices. Our capabilities, especially in robotics, computerized precision tooling, Kaizen Project Management, Six Sigma tools, and test labs, gives ITT the most optimized global manufacturing footprint in the interconnect industry.

## The Custom Difference



As the industry leader in harsh environment interconnect applications, ITT's world class engineering teams will work directly

with our customers to design and develop cost effective solutions for their applications. In many cases we may modify one of our standard designs to ensure a highly reliable solution where timing is critical. Yet, in those cases where a complete custom interconnect solution is required, ITT will work with our customer's Engineers to design an interconnect solution which will be cost effective yet highly reliable. As professional consultants, our Engineering teams will provide a thorough systems and mechanical analysis of any proposed solution. These analyses provide our customers with sophisticated electrical signal and mechanical characterizations to determine the best solution for their application.

In addition to custom connectors, ITT offers sophisticated custom cable assembly capabilities for a wide range of harsh environment applications. Our in house expert-

ise translates to our ability to integrate different technologies within a custom cable harness. ITT's capabilities include discrete wire terminations to multi wire cable harnesses with multiple connector configurations as part of the final assembly. We also specialize in pro-

viding terminated flex circuit assemblies, high temperature geophysical cable assemblies, innovative medical electronics cable assemblies, over mold strain relief systems, and EMI shielded terminations.

## RoHS Compliance Information

ITT has implemented a strict parts control plan for all ITT electronics plants worldwide that allows the Cannon Microminiature



connector product portfolio to meet the requirements of European Union Directive 2002/95/EC better known as the Reduction of Hazardous Substances initiative. To make things easier for our customers, all Cannon Microminiature products can be ordered with an R prefix number which insures our customers will receive RoHS compliant parts for their commercial electronics applications and equipment. Since most RoHS hazardous substances center around specific metal plating and lead solder coatings, ITT's products for RoHS compliance are available in the following plating finishes: electroless nickel, stainless steel, Anodize over aluminum and Gold plating. It should be noted that gold plating would be recommended as the replacement for tin-lead solder when ordering board mount connectors.



## Non Compliant RoHS Materials

Advanced Aerospace specifications and DOD system performance requirements demand the necessity to maintain production status for the primary base metals and Chem film coatings typically utilized in Aerospace electronics. Thus, in order to support ITT's Aerospace customer base and maintain

our leadership position in micro miniature connector technologies, ITT will continue to provide interconnect products with cadmium plating and tin lead solder in support of these markets. These materials are designed to be comparable to M83513.



Please consult Customer Service if RoHS part verification is required.



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# Cannon Microminiature Product Overview Guide

	MDM	MDM PCB	MDM C/P	MDMH Hermetics	TMDM Filter	MD**	MDB Coaxial	MJS	MIK	MIKM
<b>Type</b>	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket
<b>Current Rating</b>	3A max.	3A max.	3A max.	3A max.	3A max.	3A max.	3A max.	3A max.	3A max.	3A max.
<b>Contact Resistance</b>	8 milliohms max.	8 milliohms max.	8 milliohms max.	24 milliohms max.	15 milliohms max.	8 milliohms max.	8 milliohms max. (signal)	8 milliohms max.	8 milliohms max.	8 milliohms max.
<b>Contact Material</b>	gold plated copper alloy	gold plated copper alloy	gold plated copper alloy	gold plated copper and steel	gold plated copper alloy	gold plated copper alloy	gold plated copper alloy	gold plated copper alloy	gold plated copper alloy	gold plated copper alloy
<b>Shell</b>	Metal	Metal	Metal	Metal	Metal	Plastic	Plastic	Plastic	Plastic	Metal
<b>Shell Material</b>	Aluminum	Aluminum	Aluminum	Steel	Aluminum	Thermoplastic & Thermoset	Thermoset	Thermoplastic & Thermoset	Thermoplastic	Steel
<b>Available Layouts</b>	9, 15, 21, 25, 31, 37, 51 & 100	9, 15, 21, 25, 31, 37, 51 & 100	7C/P2, 24C/P4, 27C/P5 & 10C/P10	9, 15, 21, 25, 31, 37 & 51	9, 15, 21, 25, 31, 37 & 51	9, 15, 21, 25, 31, 37 & 51	7C/P2	10, 26, 51 & 66 - Rect/unshrouded 16, 28 & 35 - Rect/shrouded 26, 38, 42 & 76 - Polarized D	7 & 55	7, 55 & 85
<b>Configuration</b>	Polarized D	Polarized D	Polarized D	Polarized D	Polarized D	Polarized D	Polarized D	Rectangular & Polarized D	Circular	Circular
<b>RoHS</b>	Available	Available	Available	Available	No	Available	Available	Available	Available	Available
<b>Factory Terminated</b>	Yes*	Yes	Yes	Yes*	Yes	Yes*	Yes	Yes*	Yes	Yes
<b>Space Applications</b>	Available	Available	Available	Yes	Yes	Available	Available	Available	Yes	Yes
<b>Page Number</b>	7	18	22	23	25	28	32	39	44	44

	MIKQ	MT*	MEB	2D	CDL	CTA*	NDM	NTP	NJS
<b>Type</b>	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket	Plug and Socket
<b>Current Rating</b>	3A max.	3A max.	3A max.	5A max.	5A max.	5A max.	1A max.	1A max.	1A max.
<b>Contact Resistance</b>	8 milliohms max.	8 milliohms max.	8 milliohms max.	9 milliohms max.	9 milliohms max.	9 milliohms max.	60 milliohms max.	60 milliohms max.	60 milliohms max.
<b>Contact Material</b>	gold plated copper alloy	gold plated copper alloy	gold plated copper alloy	gold plated copper alloy	gold plated copper alloy	gold plated copper alloy	precious metal alloy & gold plated copper alloy	precious metal alloy & gold plated copper alloy	precious metal alloy & gold plated copper alloy
<b>Shell</b>	Metal	Plastic	Plastic	Plastic	Plastic	Plastic	Metal	Plastic	Plastic
<b>Shell Material</b>	Steel	Thermoplastic	Thermoset	Thermoplastic	Thermoplastic	Thermoplastic	Thermoset	Thermoset	Thermoplastic
<b>Available Layouts</b>	7, 19 & 37	MTV - 1 thru 120 MTB - 1 thru 80	64, 128, 92 & 184	19, 31, 52, 79 & 100	139	CTA3 - 1 thru 53 CTA4 - 1 thru 60	9, 15, 21, 25, 31 & 37	1 thru 40	Rectangular - 9, 24 & 44 Circular - 27, 72 & 246
<b>Configuration</b>	Circular	Strip	Polarized D	Polarized D	Polarized D	Strip	Polarized D	Strip	Rectangular & Circular
<b>RoHS</b>	Available	Available	Available	Available	Yes	Yes	Yes	Yes	Yes
<b>Factory Terminated</b>	Yes	Yes*	Yes*	No	No	No	Yes	Yes	Yes
<b>Space Applications</b>	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
<b>Page Number</b>	44	48	54	59	65	66	72	71	73

\* Solderpot versions available for end user termination

Dimensions shown in inch (mm)  
Specifications and dimensions subject to change

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M83513/ 01 - H100 - \*\* \*\*\*\*


### SERIES

- MDM - Metal Shell, Liquid Crystal Polymer (LCP)
- MDB - Diallyl Phthalate Insulator
- MDVB - Polyester Insulator
- 













### 83513-Style SLASH SHEET

- |  |  |
|--|--|
| 01 - Plug, Connector, Solderpot  | } Metal Shell  |
| 02 - Receptacle, Connector, Solderpot  |  |
| 03 - Plug, Connector, Crimp Type   |  |
| 04 - Receptacle, Connector, Crimp Type   |  |
| 05 - Hardware Only  | } Plastic  |
| 06 - Plug, Connector, Solderpot  |  |
| 07 - Receptacle, Connector, Solderpot  |  |
| 08 - Plug, Connector, Crimp Type   |  |
| 09 - Receptacle, Connector, Crimp Type   |  |


### INSERT ARRANGEMENT

	<u>METAL SHELL</u>	<u>PLASTIC</u>
A -	9 Contact	9 Contact
B -	15 Contact	15 Contact
C -	21 Contact	21 Contact
D -	25 Contact	25 Contact
E -	31 Contact	31 Contact
F -	37 Contact	37 Contact
G -	51 Contact	51 Contact
H -	100 Contact	






### WIRE TYPE

- No Number - For Solderpot
- 01 - 18" long, #26 AWG per MIL-W-22759/11-26-9 (all white)
  - 02 - 36" long, #26 AWG per MIL-W-22759/11-26-9 (all white)
  - 03 - 18" long, #26 AWG per MIL-W-22759/11-26-9  
Color Coded per MIL-STD-681, System 1, 10 colors repeating 
  - 04 - 36" long, #26 AWG per MIL-W-22759/11-26-9  
Color Coded per MIL-STD-681, System 1, 10 colors repeating 
  - 05 - .5" long, #25 AWG, type S per QQ-W-343,  
Gold Plated
  - 06 - 1.0" long, #25 AWG, type S per QQ-W-343,  
Gold Plated
  - 07 - .5" long, #25 AWG, type S per QQ-W-343,  
Tin Plated
  - 08 - 1.0" long, #25 AWG, type S per QQ-W-343,  
Tin Plated
  - 09 - 18" long, #26 AWG per MIL-W-22759/33-26-9 (all white) 
  - 10 - 36" long, #26 AWG per MIL-W-22759/33-26-9 (all white) 
  - 11 - 18" long, #26 AWG per MIL-W-22759/33-26-9  
Color Coded per MIL-STD-681, System 1, 10 colors repeating  
  - 12 - 36" long, #26 AWG per MIL-W-22759/33-26-9  
Color Coded per MIL-STD-681, System 1, 10 colors repeating  
  - 13 - 72" long, #26 AWG per MIL-W-22759/11-26-9 (all white)
  - 14 - 72" long, #26 AWG per MIL-W-22759/11-26-9  
Color Coded per MIL-STD-681, System 1, 10 colors repeating 
  - 15 - 72" long, #26 AWG per MIL-W-22759/33-26-9 (all white) 
  - 16 - 72" long, #26 AWG per MIL-W-22759/33-26-9  
Color Coded per MIL-STD-681, System 1, 10 colors repeating  

### SHELL FINISH

- No number - for plastic type connector
- C - for Cadmium/Yellow chromate over nickel
- N - A174 - Electroless Nickel A174 

### NOTES:

- <sup>1</sup> - For every Mil Spec Part Number, ITT has one corresponding part number shown an example
-  - Tolerance on wire lengths: 18", 36" and 72" long – +1.00"/-0.00"  
.5" and 1.00" – +.200"/-.000"
-  - For space application, connector shell finish must be "A174" and wire must be per MIL-W-22759/33-26.
- 4 - Any deviations to these P/N's will result in assignment of a special P/N, consult factory.
-  - Size 100 not available in / 06 through / 09. (Plastic shell)
-  - Color coding in accordance with MIL-STD-681, System 1, no parenthesis. See page 83 for color code chart.
-  - For mounting hardware to Military Specification (sizes 9 to 100) see page 13.



Dimensions shown in inch (mm)  
Specifications and dimensions subject to change

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# Micro-D PCB - .050" Contact Spacing

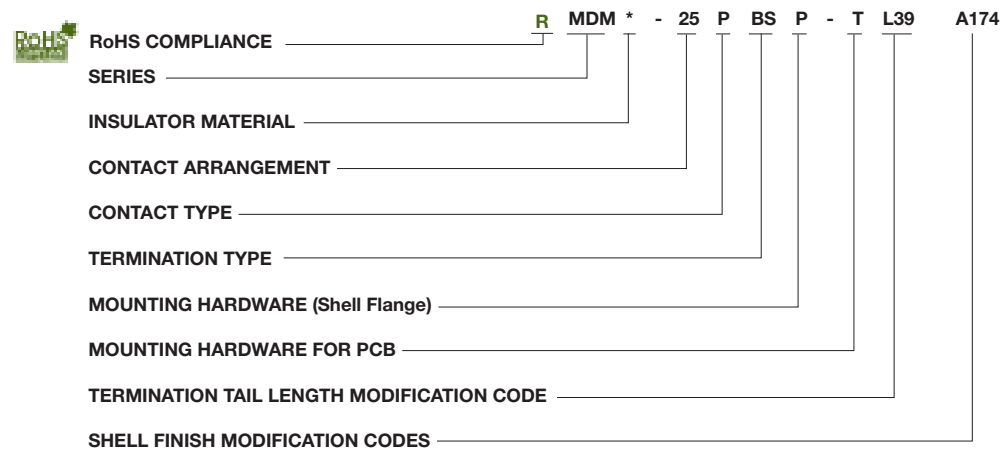
# MDM-PCB



MDM-PCB connectors are designed for use with flex circuitry, flat cable and printed circuit boards or multi-layer boards. They use the standard MDM metal shell and provide high density and high reliability in board-to-board, board-to-cable and cable-to-cable applications.

MDM-PCB connectors are available in 8 shell sizes with 9 to 100 contacts. Terminations may be straight (BS) or at 90° right angle (BR, CBR) board thickness. Jackpost mounting for use with locking hardware is also available.

## How to Order - MDM-PCB Series



- SERIES**  
MDM - Micro "D" Metal Shell
- INSULATOR MATERIAL**  
Liquid Crystal Polymer (LCP)
- CONTACT ARRANGEMENT**  
9, 15, 21, 25, 31, 37, 51, and 100
- CONTACT TYPE**  
P - Pin (Plug)  
S - Socket (Receptacle)
- NOTE: Back molding material – Epoxy Hysol #MG40FS

- TERMINATION TYPE**  
BS - Straight PCB Termination  
BR - Right Angle PCB Termination  
CBR - Right Angle Narrow Profile PCB Terminations
- MOUNTING HARDWARE (Shell Flange)**  
P - Jackposts  
M7 - Jackposts  
M83513/5-07 (Sizes 9-51)  
M17 - Jackposts  
M83513/5-17 (Size 100)  
No letter - none
- MOUNTING HARDWARE FOR PCB**  
T - Threaded Insert  
#2-56 Thd for Shell Sizes 9 thru 51  
#4-40 Thd for Shell Size 100  
No letter - none

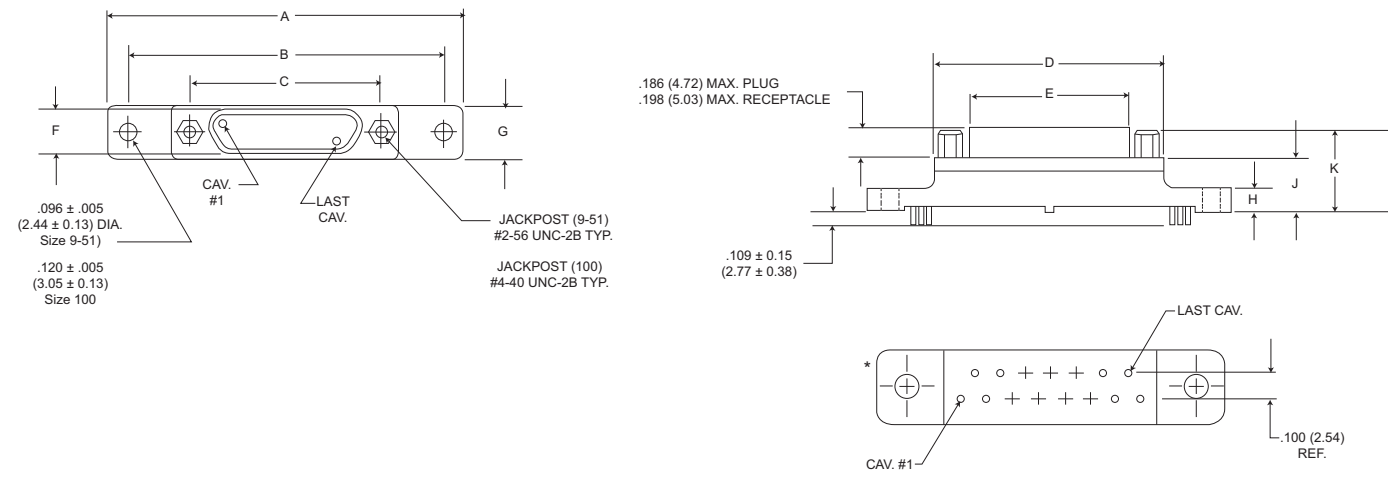
- TERMINATION TAIL LENGTH MODIFICATION CODE**  
None - .109 (2.77) ±.015 (0.38) Standard  
L61 - .125 (3.18)  
L56 - .150 (3.81)  
L57 - .190 (4.83)  
L39 - .250 (6.35)  
L58 - .375 (9.52)
- SHELL FINISH MODIFICATION CODES**  
None - Yellow Chromate/Cadmium over Nickel  
A174 - Electroless Nickel  
A172 - Gold over Nickel  
A141 - Iridite/Alodine  
A30 - Black Anodize  
(For special modification codes, consult customer service.)



Dimensions shown in inch (mm)  
Specifications and dimensions subject to change

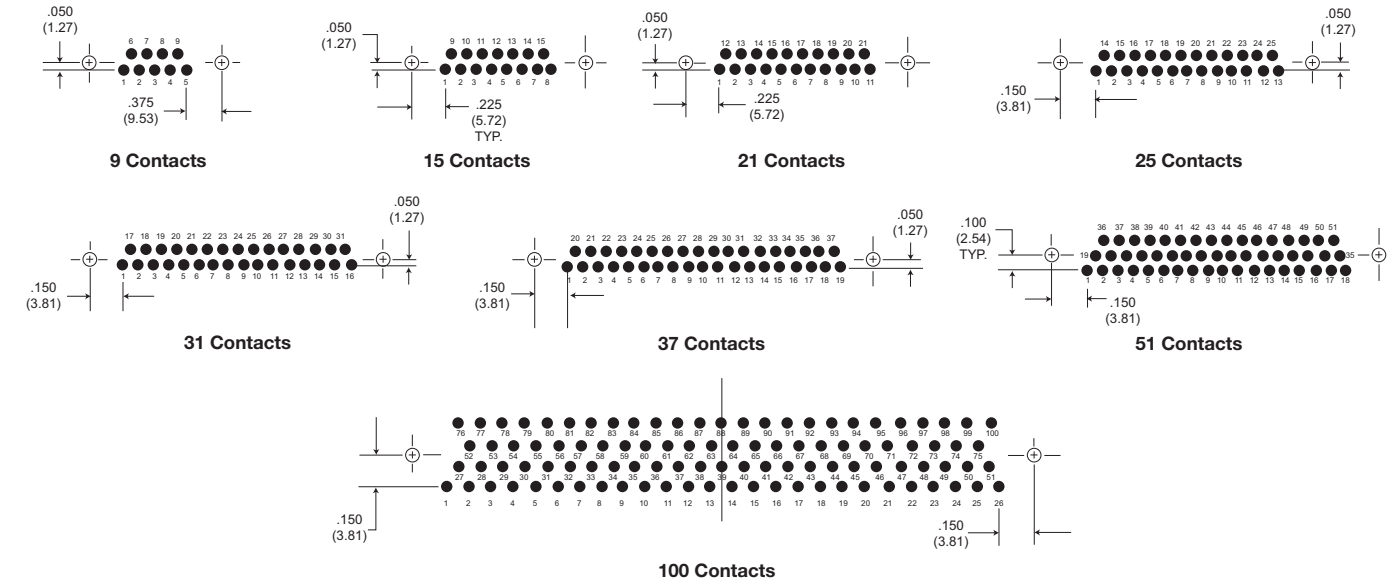
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## BS (Board Straight) Series



### PCB Termination Arrangements\* (Viewed from PCB solder side)

Identification number shown for plug connector, use reverse order for socket connector. NOTE: Dimensions shown are for reference only-consult factory for final design dimensions.



NOTE: Standard lead termination is #24 AWG, solid copper, solder or tin dipped  
All Termination Configurations .100 (2.54) x .100 (2.54) Grid Pattern, Offset .050 (1.27)

Part Number By Shell Size	A	B	C	D	E	F	G	H	J	K
	Max.	±.007 (.18)	±.005 (.13)	Max.	Max.	Max.	Max.	Max.	Max.	Max.
MDM-9PBS*	1.390 (35.31)	1.150 (29.21)	.565 (14.35)	.785 (19.94)	.334 (8.48)	.185 (4.70)	.308 (7.82)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-9SBS*	1.390 (35.31)	1.150 (29.21)	.565 (14.35)	.785 (19.94)	.402 (10.21)	.253 (6.43)	.308 (7.82)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-15PBS*	1.390 (35.31)	1.150 (29.21)	.715 (18.16)	.935 (23.75)	.484 (12.29)	.185 (4.70)	.308 (7.82)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-15SBS*	1.390 (35.31)	1.150 (29.21)	.715 (18.16)	.935 (23.75)	.552 (13.97)	.253 (6.43)	.308 (7.82)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-21PBS*	1.690 (43.93)	1.450 (36.83)	.865 (21.97)	1.085 (27.56)	.634 (16.10)	.185 (4.70)	.308 (7.82)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-21SBS*	1.690 (43.93)	1.450 (36.83)	.865 (21.97)	1.085 (27.56)	.702 (17.83)	.253 (6.43)	.308 (7.82)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-25PBS*	1.740 (44.20)	1.500 (38.10)	.965 (24.51)	1.185 (30.10)	.734 (18.64)	.185 (4.70)	.308 (7.82)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-25SBS*	1.740 (44.20)	1.500 (38.10)	.965 (24.51)	1.185 (30.10)	.802 (20.37)	.253 (6.43)	.308 (7.82)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-31PBS*	2.040 (51.82)	1.800 (45.72)	1.115 (28.32)	1.335 (33.91)	.884 (22.45)	.185 (4.70)	.308 (7.82)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-31SBS*	2.040 (51.82)	1.800 (45.72)	1.115 (28.32)	1.335 (33.91)	.952 (24.18)	.253 (6.43)	.308 (7.82)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-37PBS*	2.340 (59.44)	2.100 (53.34)	1.265 (32.13)	1.485 (37.72)	1.034 (26.26)	.185 (4.70)	.308 (7.82)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-37SBS*	2.340 (59.44)	2.100 (53.34)	1.265 (32.13)	1.485 (37.72)	1.102 (27.99)	.253 (6.43)	.308 (7.82)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-51PBS*	2.270 (67.66)	2.000 (50.80)	1.215 (30.86)	1.435 (36.45)	.984 (24.99)	.228 (5.79)	.351 (8.92)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-51SBS*	2.270 (67.66)	2.000 (50.80)	1.215 (30.86)	1.435 (36.45)	1.052 (26.72)	.296 (7.52)	.351 (8.92)	.165 (4.19)	.355 (9.02)	.555 (14.10)
MDM-100PBS*	3.070 (77.98)	2.800 (71.12)	1.800 (45.72)	2.175 (55.24)	1.384 (35.15)	.271 (6.88)	.460 (11.68)	.303 (7.70)	.550 (12.70)	.686 (17.42)
MDM-100SBS*	3.070 (77.98)	2.800 (71.12)	1.800 (45.72)	2.175 (55.24)	1.508 (38.30)	.394 (10.01)	.460 (11.68)	.303 (7.70)	.550 (12.70)	.686 (17.75)

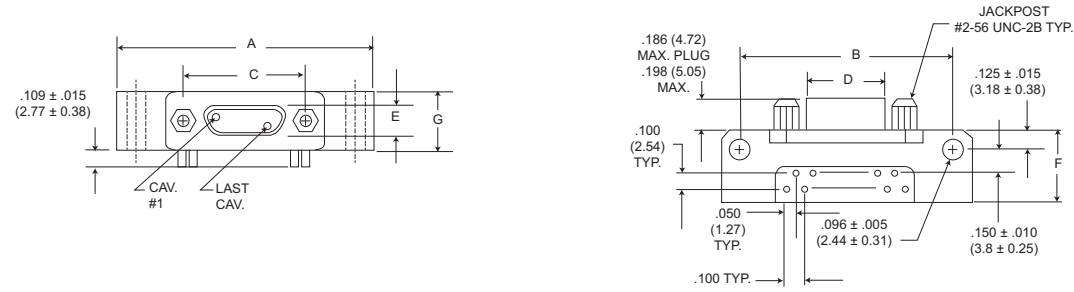
\*For jackpost, add letter "P" or "M7" for sizes 9-51, "M17" for size 100.

Dimensions shown in inch (mm)  
Specifications and dimensions subject to change

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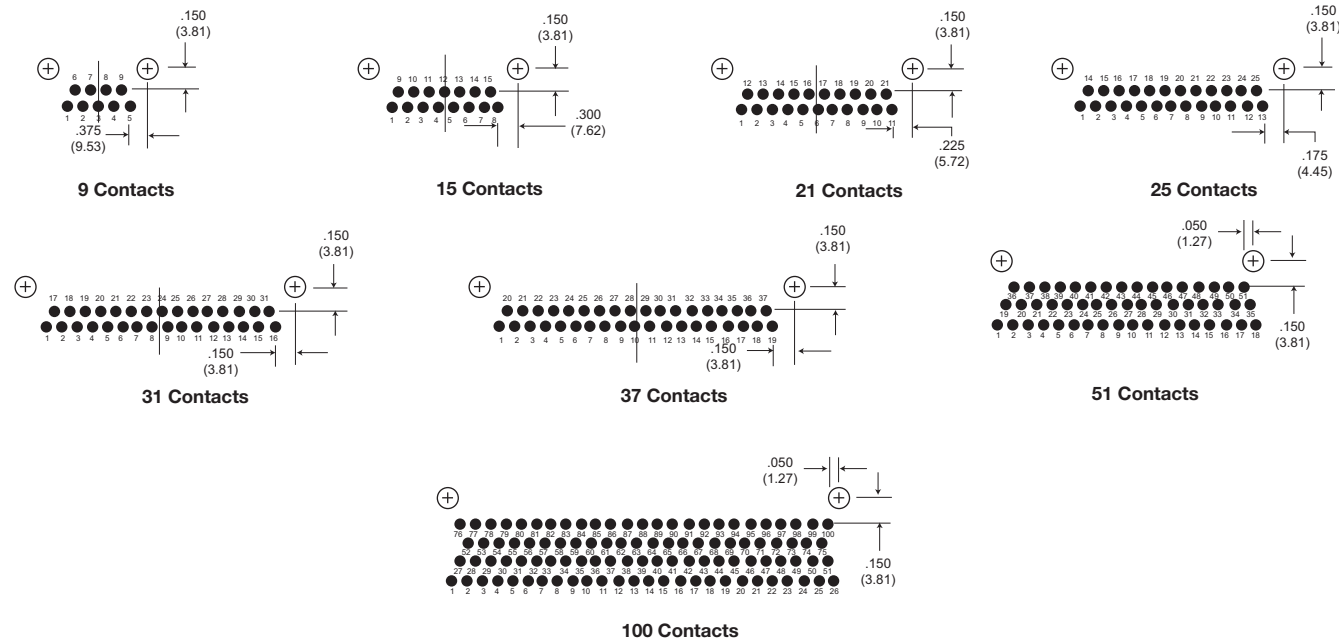






### PCB Termination Arrangements (Viewed from bottom of connector, PCB solder side.)

Identification number shown for plug connector, use reverse order for socket connector.



NOTE: Standard lead termination is #24 AWG, gold plated, solid copper, solder or tin dripped. All Termination Configurations .100 (2.54) x .100 (2.54) Grid Pattern, Offset .050 (1.27).

Part Number By Shell Size	A Max.	B ± .007 (.18)	C ± .005 (.13)	D Max.	E Max.	F Max.	G Max.
MDM-9PBR*	1.390 (35.31)	1.150 (29.21)	.565 (14.35)	.334 (8.48)	.185 (4.70)	.455 (11.56)	.308 (7.82)
MDM-9SBR*	1.390 (35.31)	1.150 (29.21)	.565 (14.35)	.402 (10.21)	.253 (6.43)	.455 (11.56)	.308 (7.82)
MDM-15PBR*	1.540 (39.12)	1.300 (33.02)	.715 (18.16)	.484 (12.29)	.185 (4.70)	.455 (11.56)	.308 (7.82)
MDM-15SBR*	1.540 (39.12)	1.300 (33.02)	.715 (18.16)	.552 (13.97)	.253 (6.43)	.455 (11.56)	.308 (7.82)
MDM-21PBR*	1.690 (42.93)	1.450 (36.83)	.865 (21.97)	.634 (16.10)	.185 (4.70)	.455 (11.56)	.308 (7.82)
MDM-21SBR*	1.690 (42.93)	1.450 (36.83)	.865 (21.97)	.702 (17.83)	.253 (6.43)	.455 (11.56)	.308 (7.82)
MDM-25PBR*	1.790 (45.47)	1.550 (39.37)	.965 (24.51)	.734 (18.64)	.185 (4.70)	.455 (11.56)	.308 (7.82)
MDM-25SBR*	1.790 (45.47)	1.550 (39.37)	.965 (24.51)	.802 (20.37)	.253 (6.43)	.455 (11.56)	.308 (7.82)
MDM-31PBR*	2.040 (51.82)	1.800 (45.72)	1.115 (28.32)	.884 (22.45)	.185 (4.70)	.455 (11.56)	.308 (7.82)
MDM-31SBR*	2.040 (51.52)	1.800 (45.72)	1.115 (28.32)	.952 (24.18)	.253 (6.43)	.455 (11.56)	.308 (7.82)
MDM-37PBR*	2.340 (59.44)	2.100 (53.34)	1.265 (32.13)	1.034 (26.26)	.185 (4.70)	.455 (11.56)	.308 (7.82)
MDM-37SBR*	2.340 (59.44)	2.100 (53.34)	1.265 (32.13)	1.102 (27.99)	.253 (6.43)	.455 (11.56)	.308 (7.82)
MDM-51PBR*	1.875 (47.63)	1.600 (40.64)	1.215 (30.86)	.984 (24.99)	.228 (5.79)	.565 (14.35)	.351 (8.92)
MDM-51SBR*	1.875 (47.63)	1.600 (40.64)	1.215 (30.86)	1.052 (26.72)	.296 (7.52)	.565 (14.35)	.351 (8.92)
MDM-100PBR*	2.74 (69.72)	2.500 (63.50)	1.800 (45.72)	1.384 (35.15)	.271 (6.88)	.755 (19.18)	.394 (10.01)
MDM-100SBR*	2.74 (69.72)	2.500 (63.50)	1.800 (45.72)	1.508 (38.10)	.394 (10.01)	.755 (19.18)	.394 (10.01)

\*For jackpost, add letter "P" or "M7" for sizes 9-51, "M17" for size 100.



Dimensions shown in inch (mm)  
Specifications and dimensions subject to change

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# Appendix

## MIL-STD-681 Wire Color Code

### Reference Data

PIN No.	MIL-STD-681 No.	Base Color	First Stripe	Second Stripe	Third Stripe	PIN No.	MIL-STD-681 No.	Base Color	First Stripe	Second Stripe	Third Stripe
1*	0	BLK				51	957	WHT	GRN	VIO	
2*	1	BRN				52	958	WHT	GRN	GRY	
3*	2	RED				53	967	WHT	BLU	VIO	
4*	3	ORN				54	968	WHT	BLU	GRY	
5*	4	YEL				55	978	WHT	VIO	GRY	
6*	5	GRN				56	9012	WHT	BLK	BRN	RED
7*	6	BLU				57	9013	WHT	BLK	BRN	ORN
8*	7	VIO				58	9014	WHT	BLK	BRN	YEL
9*	8	GRY				59	9015	WHT	BLK	BRN	GRN
10*	9	WHT				60	9016	WHT	BLK	BRN	BLU
11	90	WHT	BLK			61	9017	WHT	BLK	BRN	VIO
12	91	WHT	BRN			62	9018	WHT	BLK	BRN	GRY
13	92	WHT	RED			63	9023	WHT	BLK	RED	ORN
14	93	WHT	ORN			64	9024	WHT	BLK	RED	YEL
15	94	WHT	YEL			65	9025	WHT	BLK	RED	GRN
16	95	WHT	GRN			66	9026	WHT	BLK	RED	BLU
17	96	WHT	BLU			67	9027	WHT	BLK	RED	VIO
18	97	WHT	VIO			68	9028	WHT	BLK	RED	GRY
19	98	WHT	GRY			69	9034	WHT	BLK	ORN	YEL
20	901	WHT	BLK	BRN		70	9035	WHT	BLK	ORN	GRN
21	902	WHT	BLK	RED		71	9036	WHT	BLK	ORN	BLU
22	903	WHT	BLK	ORN		72	9037	WHT	BLK	ORN	VIO
23	904	WHT	BLK	YEL		73	9038	WHT	BLK	ORN	GRY
24	905	WHT	BLK	GRN		74	9045	WHT	BLK	YEL	GRN
25	906	WHT	BLK	BLU		75	9046	WHT	BLK	YEL	BLU
26	907	WHT	BLK	VIO		76	9047	WHT	BLK	YEL	VIO
27	908	WHT	BLK	GRY		77	9048	WHT	BLK	YEL	GRY
28	912	WHT	BRN	RED		78	9056	WHT	BLK	GRN	BLU
29	913	WHT	BRN	ORN		79	9057	WHT	BLK	GRN	VIO
30	914	WHT	BRN	YEL		80	9058	WHT	BLK	GRN	GRY
31	915	WHT	BRN	GRN		81	9067	WHT	BLK	BLU	VIO
32	916	WHT	BRN	BLU		82	9068	WHT	BLK	BLU	GRY
33	917	WHT	BRN	VIO		83	9078	WHT	BLK	VIO	GRY
34	918	WHT	BRN	GRY		84	9123	WHT	BRN	RED	ORN
35	923	WHT	RED	ORN		85	9124	WHT	BRN	RED	YEL
36	924	WHT	RED	YEL		86	9125	WHT	BRN	RED	GRN
37	925	WHT	RED	GRN		87	9126	WHT	BRN	RED	BLU
38	926	WHT	RED	BLU		88	9127	WHT	BRN	RED	VIO
39	927	WHT	RED	VIO		89	9128	WHT	BRN	RED	GRY
40	928	WHT	RED	GRY		90	9134	WHT	BRN	ORN	YEL
41	934	WHT	ORN	YEL		91	9135	WHT	BRN	ORN	GRN
42	935	WHT	ORN	GRN		92	9136	WHT	BRN	ORN	BLU
43	936	WHT	ORN	BLU		93	9137	WHT	BRN	ORN	VIO
44	937	WHT	ORN	VIO		94	9138	WHT	BRN	ORN	GRY
45	938	WHT	ORN	GRY		95	9145	WHT	BRN	YEL	GRN
46	945	WHT	YEL	GRN		96	9146	WHT	BRN	YEL	BLU
47	946	WHT	YEL	BLU		97	9147	WHT	BRN	YEL	VIO
48	947	WHT	YEL	VIO		98	9148	WHT	BRN	YEL	GRY
49	948	WHT	YEL	GRY		99	9156	WHT	BRN	GRN	BLU
50	956	WHT	GRN	BLU		100	9157	WHT	BRN	GRN	VIO

\* 10 colors repeat is the standard wire color code for 83513-Style connectors.



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