

# Amphenol<sup>®</sup>

Canada



**ENGINEERED SOLUTIONS. DESIGNED TO FIT**

# MICRO CONNECTOR PRODUCTS

.050" (1.27 mm) PITCH

# Amphenol®

## Rectangular and Filtered Products

For more than 50 years, Amphenol Canada Corp. a subsidiary of Amphenol Corporation has been an international leader in the manufacture of rectangular and filtered connectors.

We design, manufacture and test EMI / EMP filter and non-filter connectors, which are used worldwide in military, aerospace, and commercial applications. As part of Amphenol Corporation, we have the advantage of access to technologies and processes of Amphenol's worldwide facilities. Our expertise in understanding and supporting our customers' interconnect needs has earned us a reputation of excellence among the world's leading users of electronic components.

## CUSTOMER SERVICE

At Amphenol Canada, customer service is a solid commitment from all our employees. Our product managers, application engineers, product specialists, and sales representatives are able to answer your questions and assist you in choosing the right connectors for your applications.

Using Amphenol's on-line computer system, we are able to promptly update you on your order status, provide you with price and delivery quotations, and address any problems or questions you might have.

Whether you need standard or custom designed connectors, our marketing department is your liaison with Amphenol Canada's engineering, quality and manufacturing experts.

## QUALITY & RELIABILITY

### Certified to ISO 9001:2000 + AS9100B

Amphenol Canada's broad base of customers and the high levels of technology in which they are involved make it essential that Amphenol's own products are of the highest quality and reliability.

Please contact us for RoHS requirements.

## ENGINEERING

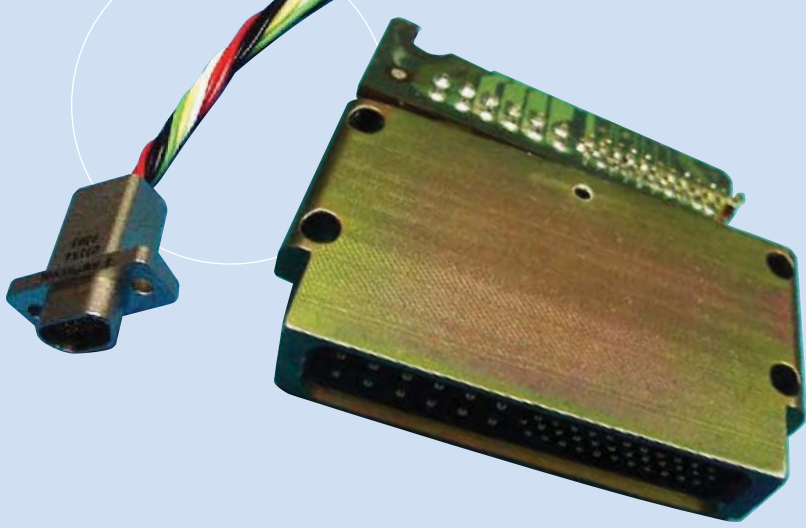
Amphenol Canada provides innovative designs to help our customers solve a variety of EMI / EMP and/or allowable space problems.

The engineering department is fully equipped with 3-D CAD modeling, state-of-the-art electrical test equipment and environmental test chambers; enabling ongoing research and development that contributes to our design solutions of tomorrow.

## MANUFACTURING CAPABILITIES

- CNC machining of connector shells and hardware
- Screw machining of contacts
- Stamping (including progressive dies) of shells, contacts and ground plates
- Plating with electroless nickel, cadmium, OD cadmium and other special plating
- Injection moulding of thermoset, thermoplastic and rubber
- Tool room equipped to manufacture and maintain tools, dies and moulds
- Final assembly shop equipped with special purpose assembly machinery, equipment and tools, and electrical test equipment
- Model shop for design concept evaluation and prototyping
- Quick reaction facility for speedy manufacturing of pre-production quantities

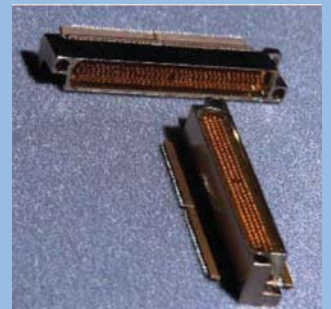
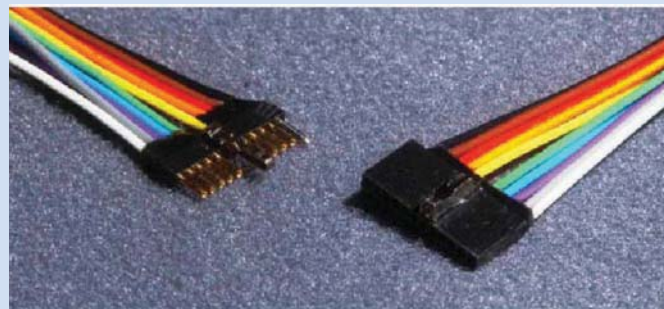




## ENGINEERED SOLUTIONS. DESIGNED TO FIT.

Amphenol micro connectors provide small inter-connect solutions, which will exceed the requirements of the US military standard M83513. What differentiates Amphenol from the competition is our overall connector design. Custom solutions can easily be engineered to ensure exact performance in any application.

Amphenol is not limited to the traditional M83513 rectangular connectors but has also developed and produced circular connectors, strip line connectors, PC board connectors, and hybrid connectors utilizing power, signal, coaxial and fiber optics contacts.



### MICROMINIATURE CONNECTORS: GENERAL INFORMATION

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| Why Use Amphenol Precision Stamped and Formed Contacts? ..... | <b>p5</b>  |
| Connector / Component Terminology .....                       | <b>p6</b>  |
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### MICRO-D HARNESSSED CONNECTORS: SERIES 100, 102, 104



Solder Cup Termination  
(QPL to M83513/01 &/02)  
Metal / Plastic Inter-matable  
Sizes 9 thru 100  
**p11-13**

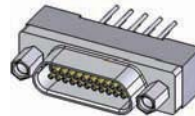


Stranded Wire Termination  
(QPL to M83513/03 &/04)  
Metal / Plastic Inter-matable  
Sizes 9 thru 100  
**p11-13**

### MICRO-D PRINTED CIRCUIT BOARD (PCB) CONNECTORS: SERIES 100, 102, 104, 110



"BS" Straight Termination  
(QPL to M83513/22 thru /27)  
Metal / Plastic Inter-matable  
Sizes 9 thru 100  
**p14-16**



"C6" Straight Termination  
(QPL to M83513/28 thru /33)  
Metal / Plastic Inter-matable  
Sizes 9 thru 100  
**p14,21,23**



"BR" Right Angle Termination  
(QPL to M83513/16 thru /21)  
Metal / Plastic Inter-matable  
Sizes 9 thru 100  
**p14,17-18**



"C16" Straight Termination  
(C6 with standard/custom hardware)  
Metal / Plastic Inter-matable  
Sizes 9 thru 100  
**p14,22-23**

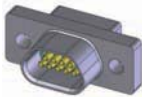


"CBR" Right Angle Termination  
(QPL to M83513/10 thru /15)  
Metal / Plastic Inter-matable  
Sizes 9 thru 100  
**p14,19-20**

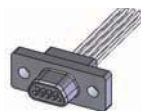


"110" Reversed Polarization, CBR Type  
Alternate Board Layout  
Metal / Plastic Inter-matable  
Sizes 9 thru 100  
**p24-26**

### MICRO-D PLASTIC CONNECTORS (NARROW WIDTH PROFILE): SERIES 101



Solder Cup Termination  
(QPL to M83513/06 &/07)  
Mates Only with Series 101  
Sizes 9 thru 100  
**p27-29**



Stranded Wire Termination  
(QPL to M83513/08 &/09)  
Mates Only with Series 101  
Sizes 9 thru 100  
**p27-29**



"BS" Straight Termination  
Mates Only with Series 101  
Sizes 9 thru 100  
**p30-31,16**



"BR" R/A Termination  
Mates Only with Series 101  
Sizes 9 thru 100  
**p30,32,18**



"CBR" R/A Termination  
Mates Only with Series 101  
Sizes 9 thru 100  
**p30,33,20**

### MICRO-D HARDWARE AND ACCESSORIES



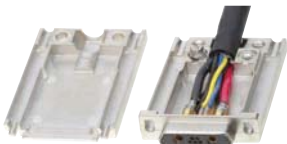
"MDCE" Dust Caps  
Suitable for M83513 connectors  
Statically Dissipative  
Sizes 9 thru 100  
**p34**



"HM05" Standard Hardware  
(QPL to M83513/05)  
#2-56 / #4-40 UNC Thread  
Low and High Profile  
**p35**



Custom Hardware  
(Pre-installed by Factory)  
#2-56 / #4-40 UNC Thread  
Low and High Profile  
Captive / Float  
**p36**



Connector with Integrated EMI Backshell  
Designed by Amphenol  
Intermates with M83513 connectors  
Reduce EMI and provides strain relief  
Grounding screw (optional)  
Sizes 9 thru 100  
**p37**



"MBS" EMI Backshell  
Straight / Right Angle Exit  
Suitable for M83513 connectors  
Sizes 9 thru 100  
**p38-40**

### MICRO-D CONNECTOR SAVER / ADAPTER: SERIES 100, 101, 102



"P/S" 2-in-1 Connector  
Intermates with M83513 connectors  
Opposite mating genders (consult factory for same genders)  
Sizes 9 thru 100  
**p41-42**

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### STRIP CONNECTORS (.050" CONTACT SPACING): SERIES 105



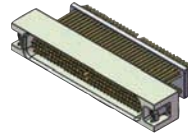
Plastic connector, solder cup or wire termination  
Single row (consult factory for double row)  
Guide pin (optional)  
Sizes 1 thru 30  
**p43-44**



### HI-DENSITY CARD CONNECTORS: SERIES 106



Metal connector, stranded wire termination  
Compact in size, M83513 performance  
Sizes 50 thru 152  
**p45-46**

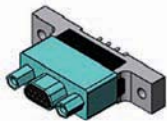


Metal connector, vertical PCB mount  
Compact in size, M83513 performance  
Sizes 50 thru 152  
**p45-46**

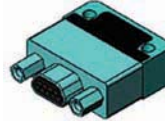


Consult factory for hi-density surface mount or straddle mount (edge card) connectors.

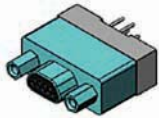
### FILTER MICRO-D CONNECTORS: SERIES M13



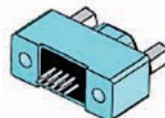
"BS" Straight Termination  
Pi or C Filter  
Mates with M83513 connectors  
Sizes 9 thru 37  
**p47-49,16**



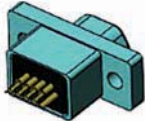
"CBR" Right Angle Termination  
Pi or C Filter  
Mates with M83513 connectors  
Sizes 9 thru 37  
**p47-48,52,20**



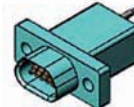
"C6" Straight Termination  
Pi or C Filter  
Mates with M83513 connectors  
Sizes 9 thru 37  
**p47-48,50,23**



Solid Wire Termination  
Pi or C Filter  
Mates with M83513 connectors  
Sizes 9 thru 37  
**p47-48,53**



Solder Cup Termination  
Pi or C Filter  
Mates with M83513 connectors  
Sizes 9 thru 37  
**p47-48,51**



Stranded Wire Termination  
Pi or C Filter  
Mates with M83513 connectors  
Sizes 9 thru 37  
**p47-48,54**

### SPECIALTY CONNECTORS



Combo / Hybrid Micro-D  
Signal with Power / Coaxial Contacts  
Sizes 9 thru 100  
**p54**



Surface Mount or Straddle Mount (Edge Card)  
Mates Only with Series 101  
Sizes 9 thru 100  
**p54**

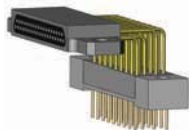


Panel Mount with O-ring Seal  
Minimum IP-67  
Sizes 9 thru 100  
**p54**



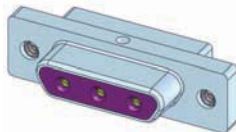
High Temperature (200C)  
Sizes 9 thru 100  
**p54**

### CUSTOM HARNESSED ASSEMBLIES: APPLICATION SPECIFIC



Multiple Cable Terminations  
Micro-D to PCB Termination  
Micro-D to Other Product Termination  
**p55**

### CUSTOM CONNECTORS: APPLICATION SPECIFIC



Double Bay (Vertical / Horizontal)  
Power / Coaxial Contacts Only  
Strip Connector with Hardware  
Shell / Backshell Modifications  
**p56**

### REFERENCES

Wire Gauge and MIL-STD-681 (Sys 1) Colour Code ..... **p57**  
Part Number Cross Reference: MIL-SPEC / Amphenol ..... **p58-67**

### Why use Amphenol precision stamped & formed contacts



- **AMPHENOL DESIGN** not like other stamped and formed designs
- **FULLY QUALIFIED** per MIL-DTL-83513 requirements
- **ONE PIECE CONTACT** with **EQUALLY SPACED** compliant tines
- **GOLD OVER NICKEL** versus gold over copper flash barrier
- **TIGHTER CONTROL** over plating process
- **UNIFORM PLATING** thickness
- **AUTOMATED STAMPING** versus twist process variations
- Integrated closed engaging end **ENSURES UNIFORM INSERTION FORCES**
- **LOW MATING/UNMATING FORCE**
- **PREFERRED CONTACT** for **SPACE** and **SATELLITE** applications
- **CONTINUOUS CONNECTION** along the length of the contact beam (line contact) versus multi-point connection (point contact)

#### AMPHENOL



3-Tyne compression

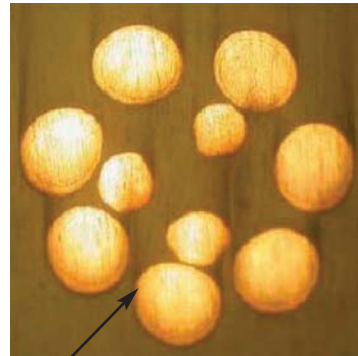
#### COMPETITOR



2 bundles of wires twisted, tip welded, squashed, crimped then plated



Au/Ni Barrier  
(Uniform plating thickness)



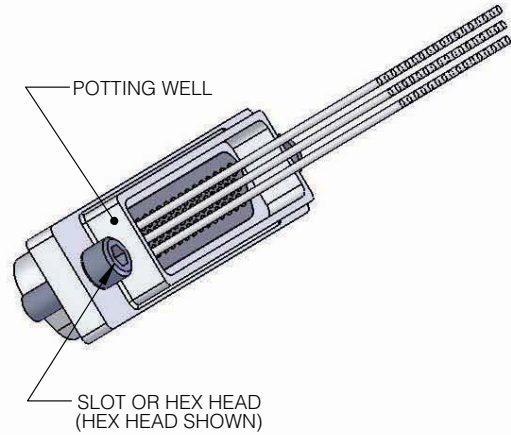
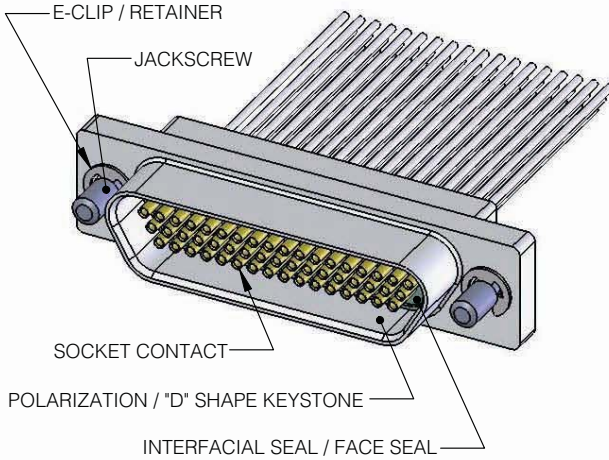
Au/Cu Flash Barrier  
(Inconsistent plating thickness)

Micro-miniature contact system employs a precision stamped and formed pin contact recessed within the plug insulator.

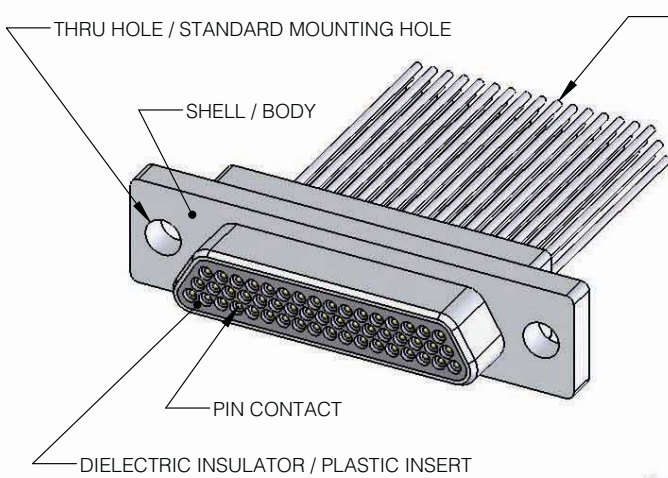
The contact system has proven reliability, exceeding the performance specifications of MIL-DTL-83513.

# How to describe what you really need?

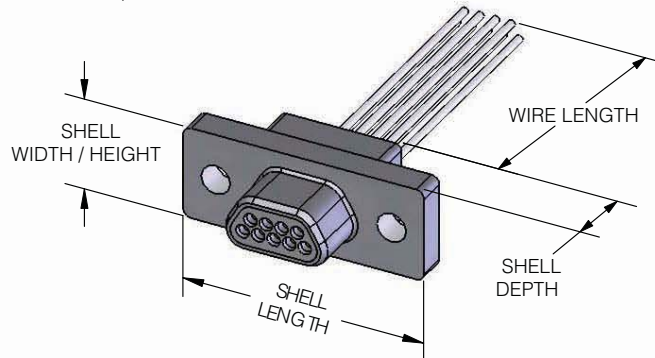
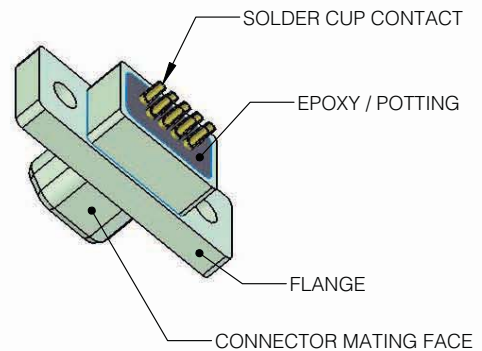
## RECEPTACLE / FEMALE / SOCKET CONNECTOR



## PLUG / MALE / PIN CONNECTOR



INSULATED WIRE (STRANDED) / PIGTAILS / FLYING LEADS  
OR  
UNINSULATED SOLID WIRE / STRAIGHT PCB TERMINATION



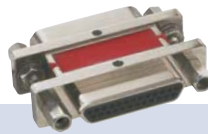
## SPECIFICATIONS

The Amphenol microminiature connector series offers proven military spec performance and reliability in rectangular and strip line micro connectors. Microminiature connectors are available in rectangular D, strip and custom card edge configurations, with contacts on .050 (1.27) centres. Inserts in micro-d miniature connectors with signal and coax/power contacts are also available.

The Amphenol microminiature contact system employs a precision stamped and formed pin contact recessed within the plug insulator. The socket contact is a precision fabricated tube. Pin and socket contacts are epoxy retained in high grade thermoplastic insulators.

The contact system has proven reliability, exceeding the performance specifications of MIL-DTL-83513.

Terminations are available in a broad range including solder cup, terminated to wire harness, vertical and right angle PCB. Plastic and metal shell versions are available, in a broad range of shell finishes. A broad range of mounting hardware is available (jackscrews, posts, guide pins) as well as straight and angled back-shells.



**Amphenol**  
Canada



### MICROMINATURE CONNECTOR

The following data applies to a standard Amphenol Canada micro-d connector with wires or pcb termination. Variations from standard products may cause performance to vary from that mentioned below. Consult factory for special applications and requirements.

#### Specifications

|   |   |   |
|---|---|---|
| <b>Shell Material</b>                     | Std. Metal (100, 106, 110 & M13 Series):<br>104 Series:<br>Std. Plastic (101, 102 & 105 Series):<br>High Temp Plastic:    | Aluminum alloy 6061-T6 per QQ-A-200/8<br>Stainless steel<br>Polyphenylene sulfide (Ryton)<br>High performance thermoplastic (PEEK or equivalent)  |
| <b>Shell Finish</b><br>(Metal Shell Only) | Anodize **<br>Cadmium<br>Gold<br>Irridite/Alodine **<br>Electroless Nickel<br>Tin   |   |
| <b>Insulator / PCB Backshell</b>          | Polyphenylene sulfide (Ryton) per MIL-M-24519, type GST-40F; colour: black  |   |
| <b>Contacts</b>                           | Copper alloy, 50 micro-inches gold plate over nickel  |   |
| <b>Hardware</b>                           | Stainless steel, passivated   |   |
| <b>Potting Material</b>                   | Std. Epoxy:<br>High Temp Epoxy:   | EP1730-1 or equivalent; colour: black<br>EP173859 or equivalent   |
| <b>Wire</b>                               | Insulated Wire:<br><br>Solid Uninsulated Wire:  | MIL-W-16878/4 or /6 (available 7 or 19 strands)<br>MIL-W-22759/11 or /33<br>Copper per A-A-59551 (QQ-W-343)   |
| <b>Coupling</b>                           | Friction or Jackscrews into jackposts/threaded Inserts  |   |
| <b>Contact Spacing</b>                    | .050 (1.27) centers   |   |
| <b>Shell Styles (Gender)</b>              | Plug (pin contacts) and receptacle (socket contacts)  |   |
| <b>Number of Contacts</b>                 | Standard Micro-d:<br>Combo (Hybrid) Micro-d:<br><br>High Density Connector (106 Series):<br>Strip Connector (105 Series): | 9, 15, 21, 25, 31, 37, 51, 69, 100<br>7W2 or 7C2 (5 signal, 2 power/coax)<br>24W4 or 24C4 (20 signal, 4 power/coax)<br>50, 54, 58, 62, 66, 70, 74, 104, 112, 120, 128, 136, 144, 152<br>1 thru 30 (no guide pins)<br>1 thru 29 (guide pin on one end)<br>1 thru 28 (guide pin on both ends) |
| <b>Coaxial Cable</b>                      | RG-178/U  |   |
| <b>Wire Size</b>                          | #24 thru #32 AWG (largest to smallest diameter)   |   |
| <b>Contact Termination</b>                | Multiple indent crimp   |   |

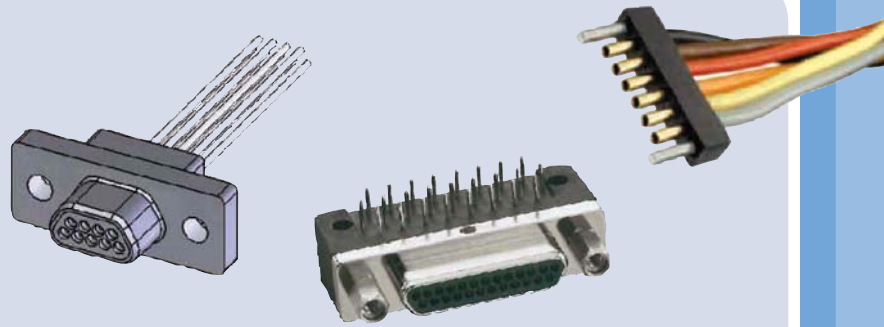


**MICROMINATURE CONNECTOR  
PERFORMANCE DATA**

The following data applies to a standard Amphenol Canada micro-d connector that is in accordance with M83513 spec.

Variations from standard products may cause performance to vary from that mentioned below.

Consult factory for special applications and requirements.



| Test Description                             | Specification/ Method *           | Limits   |
|--|-----------------------------------|--|
| Contact Rating                               | ---                               | 3 amps max.  |
| Magnetic Permeability                        | ASTM-A342/A342M                   | 2.0 μ max.   |
| D.W.V.<br>(Test voltage rms 60 Hz ac volts)  | EIA-364-20                        | at sea level: 600 vac for solder pot and standard wire<br>at 70,000 ft altitude (reduced barometric pressure):<br>150 vac for solder pot and standard wire |
| Insulation Resistance                        | EIA-364-21                        | 5000 megohms min.  |
| Contact Resistance                           | EIA-364-23                        | 8 milliohms at 3 amps  |
| Contact Engagement Force                     | MIL-DTL-83513                     | 6.0 oz. max.   |
| Contact Separation Force                     | MIL-DTL-83513                     | 0.5 oz. min.   |
| Connector Mating Force                       | MIL-DTL-83513                     | (10 oz. times no. of contacts) max.  |
| Connector Unmating Force                     | MIL-DTL-83513                     | (0.5 oz. times no. of contacts) min.   |
| Thermal Shock<br>(Temperature Cycling)       | EIA-364-32, condition I, 5 cycles | No physical damage<br>-55°C to +125°C (-67°F to +257°F)  |
| Mechanical Shock<br>(Specified Pulse)        | EIA-364-27, condition E           | No physical damage and no loosening of parts<br>No loss of continuity > 1 microsec.  |
| Vibration                                    | EIA-364-28, condition IV          | No physical damage and no loosening of parts<br>No loss of continuity > 1 microsec.  |
| Durability                                   | MIL-DTL-83513                     | 500 mating cycles at a rate of 200 ±100 CPH  |
| Salt Spray (Corrosion)                       | EIA-364-26, condition B           | Meets mateability and contact resistance requirements  |
| Fluid Immersion                              | MIL-DTL-83513                     | Meets mateability requirements   |
| Humidity                                     | EIA-364-31                        | Meets D.W.V. and insulation resistance requirements<br>1 megohm min. after step 6, 1000 megohms min.<br>after 24 hrs of conditioning                       |
| Insert Retention (class M)                   | MIL-DTL-83513                     | 50 lbs psi (axial load)  |
| Solderability                                | MIL-STD-202, method 208           | Withstand test condition   |
| Contact Retention E                          | IA-364-29                         | 5 lbs min. (axial load)  |
| Thermal Vacuum Outgassing<br>(Space Classes) | SP-R-0022 or ASTM E595            | Exceeds MIL-DTL-83513 requirements; standard is 1.0%<br>max TML and 0.1% max VCM of original mass  |

\* Standards References

MIL = Department of Defense

ASTM = ASTM International

EIA = Electronic Industries Association

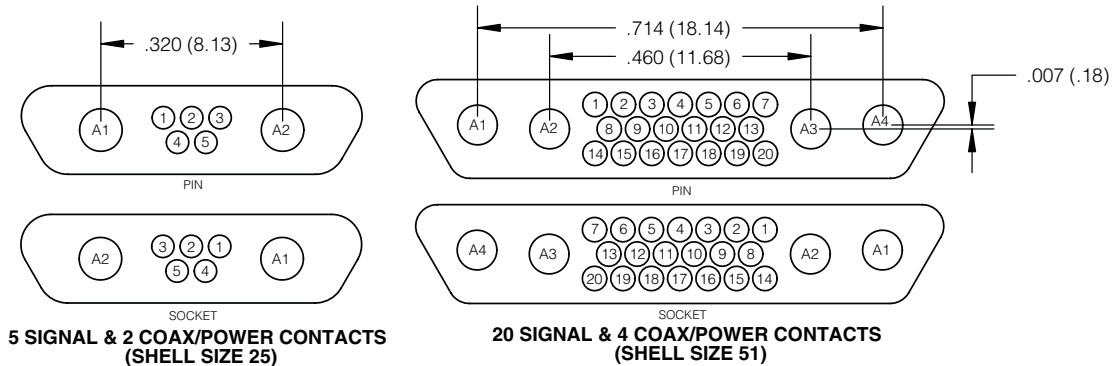
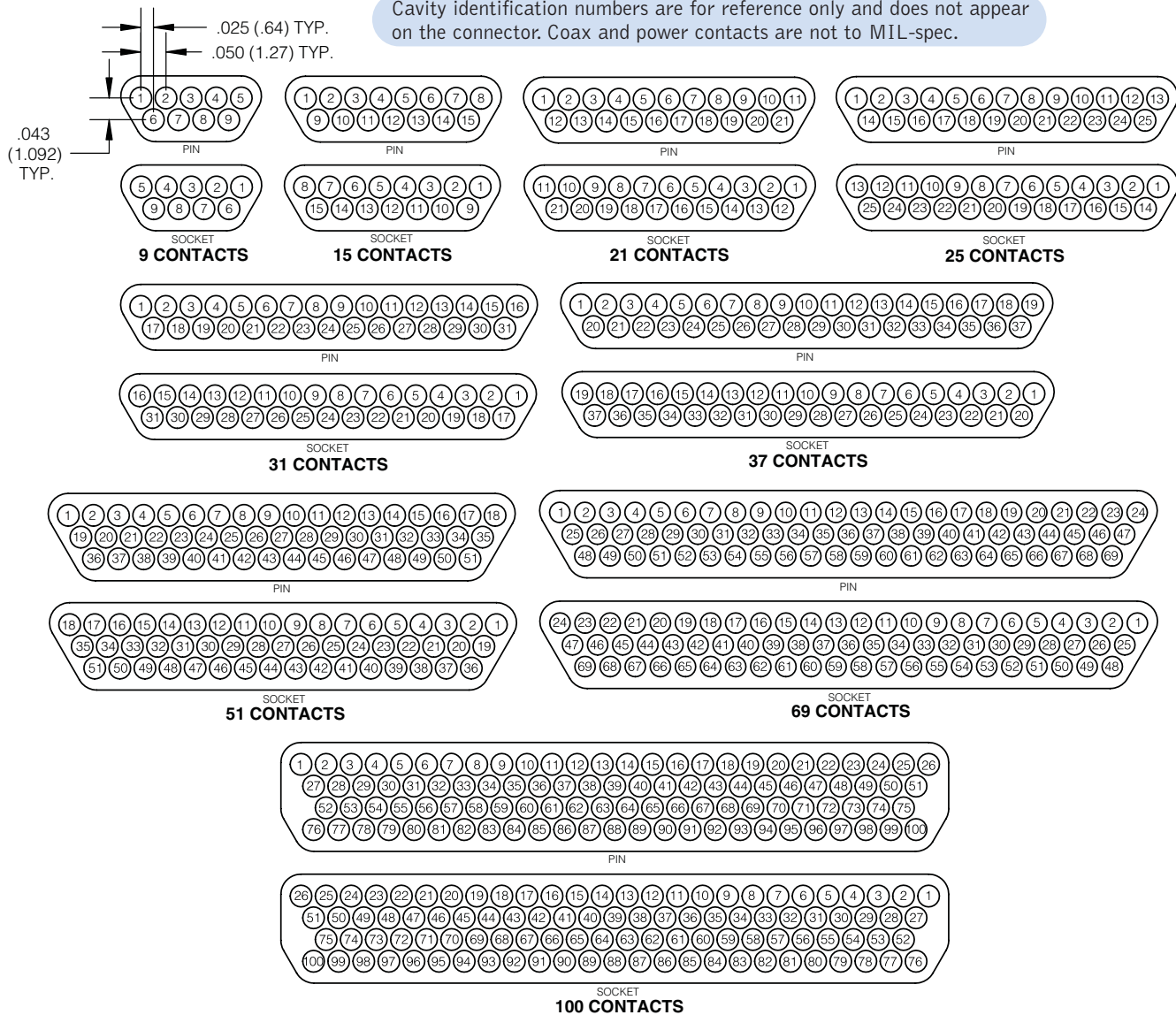
SP = NASA

\*\* Does not apply for die-cast parts (consult factory before ordering)

CONTACT ARRANGEMENTS

Series 100 to 104 & Combo Micro-D

Cavity identification numbers are for reference only and does not appear on the connector. Coax and power contacts are not to MIL-spec.

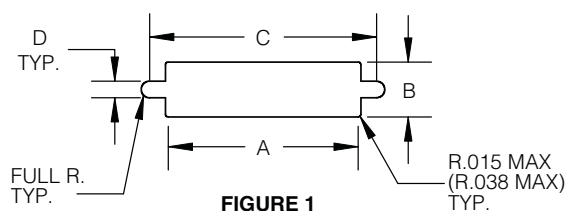


INCHES (MM)

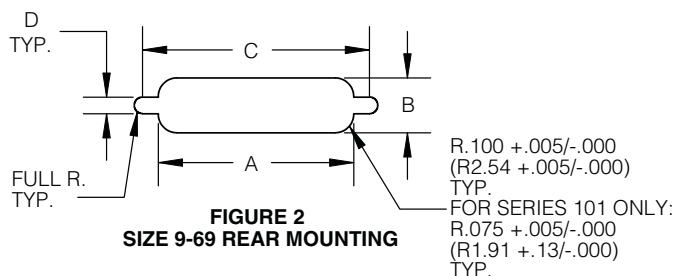


# PANEL CUTOUTS

## Series 100 to 104 & Combo Micro-D

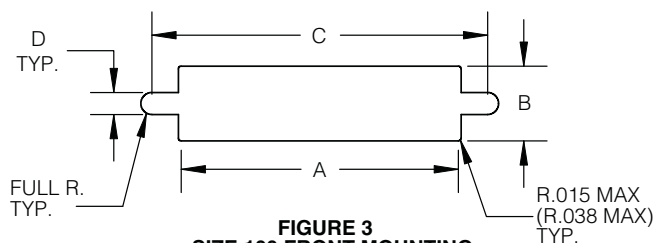


**FIGURE 1**  
SIZE 9-69 FRONT MOUNTING

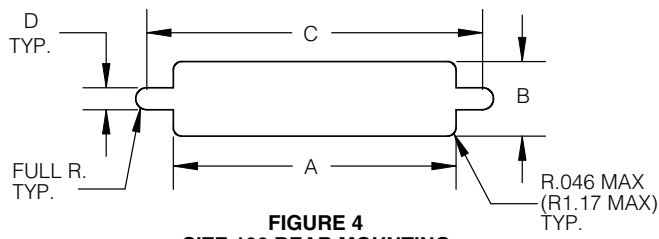


**FIGURE 2**  
SIZE 9-69 REAR MOUNTING

R.100 +.005/-0.000  
(R2.54 +.005/-0.000)  
TYP.  
FOR SERIES 101 ONLY:  
R.075 +.005/-0.000  
(R1.91 +.13/-0.000)  
TYP.



**FIGURE 3**  
SIZE 100 FRONT MOUNTING



**FIGURE 4**  
SIZE 100 REAR MOUNTING

R.046 MAX  
(R1.17 MAX)  
TYP.

### Series 100, 102, 104 & Combo Micro-D

| SIZE | FIGURE | A<br>+.004 (0.10)<br>-.000 (0.00) | B<br>+.004 (0.10)<br>-.000 (0.00) | C<br>+.005 (0.13)<br>-.000 (0.00) | D<br>+.005 (0.13)<br>-.000 (0.00) |
|------|--------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| 9    | 1      | .408 (10.36)                      | .271 (6.88)                       | .570 (14.48)                      | .089 (2.26)                       |
|      | 2      | .401 (10.19)                      | .252 (6.40)                       | .570 (14.48)                      | .089 (2.26)                       |
| 15   | 1      | .558 (14.17)                      | .271 (6.88)                       | .720 (18.29)                      | .089 (2.26)                       |
|      | 2      | .551 (14.00)                      | .252 (6.40)                       | .720 (18.29)                      | .089 (2.26)                       |
| 21   | 1      | .708 (17.98)                      | .271 (6.88)                       | .870 (22.10)                      | .089 (2.26)                       |
|      | 2      | .701 (17.81)                      | .252 (6.40)                       | .870 (22.10)                      | .089 (2.26)                       |
| 25   | 1      | .808 (20.52)                      | .271 (6.88)                       | .970 (26.64)                      | .089 (2.26)                       |
|      | 2      | .801 (20.34)                      | .252 (6.40)                       | .970 (26.64)                      | .089 (2.26)                       |
| 31   | 1      | .958 (24.33)                      | .271 (6.88)                       | 1.120 (28.45)                     | .089 (2.26)                       |
|      | 2      | .951 (24.13)                      | .252 (6.40)                       | 1.120 (28.45)                     | .089 (2.26)                       |
| 37   | 1      | 1.108 (28.14)                     | .271 (6.88)                       | 1.270 (32.26)                     | .089 (2.26)                       |
|      | 2      | 1.101 (27.97)                     | .252 (6.40)                       | 1.270 (32.26)                     | .089 (2.26)                       |
| 51   | 1      | 1.058 (26.87)                     | .315 (8.00)                       | 1.220 (30.99)                     | .089 (2.26)                       |
|      | 2      | 1.051 (26.70)                     | .295 (7.49)                       | 1.220 (30.99)                     | .089 (2.26)                       |
| 69   | 1      | 1.358 (34.49)                     | .315 (8.00)                       | 1.525 (38.74)                     | .089 (2.26)                       |
|      | 2      | 1.351 (34.32)                     | .295 (7.49)                       | 1.525 (38.74)                     | .089 (2.26)                       |
| 100  | 3      | 1.456 (36.98)                     | .361 (9.17)                       | 1.805 (45.85)                     | .118 (3.00)                       |
|      | 4      | 1.520 (38.61)                     | .401 (10.18)                      | 1.805 (45.85)                     | .118 (3.00)                       |

**Notes:**

- Shell sizes 9-69 front mounting (Figure 1) and rear mounting (Figure 2) cutouts accommodate #2-56 screws.
- Shell size 100 front mounting (Figure 3) and rear mounting (Figure 4) cutouts accommodate #4-40 screws.

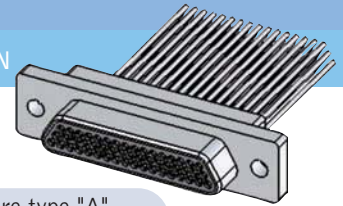
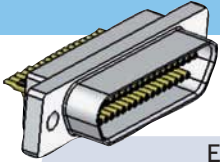
### Series 101 only

| SIZE | FIGURE | A<br>+.004 (0.10)<br>-.000 (0.00) | B<br>+.004 (0.10)<br>-.000 (0.00) | C<br>+.005 (0.13)<br>-.000 (0.00) | D<br>+.005 (0.13)<br>-.000 (0.00) |
|------|--------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| 9    | 1      | .408 (10.36)                      | .172 (4.37)                       | .570 (14.48)                      | .089 (2.26)                       |
|      | 2      | .378 (9.60)                       | .217 (5.51)                       | .570 (14.48)                      | .089 (2.26)                       |
| 15   | 1      | .588 (14.94)                      | .172 (4.37)                       | .720 (18.29)                      | .089 (2.26)                       |
|      | 2      | .528 (13.41)                      | .217 (5.51)                       | .720 (18.29)                      | .089 (2.26)                       |
| 21   | 1      | .708 (17.98)                      | .172 (4.37)                       | .870 (22.10)                      | .089 (2.26)                       |
|      | 2      | .678 (17.22)                      | .217 (5.51)                       | .870 (22.10)                      | .089 (2.26)                       |
| 25   | 1      | .808 (20.52)                      | .172 (4.37)                       | .970 (26.64)                      | .089 (2.26)                       |
|      | 2      | .778 (19.76)                      | .217 (5.51)                       | .970 (26.64)                      | .089 (2.26)                       |
| 31   | 1      | .958 (24.33)                      | .172 (4.37)                       | 1.120 (28.45)                     | .089 (2.26)                       |
|      | 2      | .928 (23.57)                      | .217 (5.51)                       | 1.120 (28.45)                     | .089 (2.26)                       |
| 37   | 1      | 1.108 (28.14)                     | .172 (4.37)                       | 1.270 (32.26)                     | .089 (2.26)                       |
|      | 2      | 1.078 (27.38)                     | .217 (5.51)                       | 1.270 (32.26)                     | .089 (2.26)                       |
| 51   | 1      | 1.058 (26.87)                     | .215 (5.46)                       | 1.220 (30.99)                     | .089 (2.26)                       |
|      | 2      | 1.028 (26.11)                     | .261 (6.63)                       | 1.220 (30.99)                     | .089 (2.26)                       |

**Notes:**

- Sizes 69 & 100 are not applicable for 101 series plastic connectors.

## SOLDER CUP AND CRIMP TERMINATION



### Series 100, 102 & 104

**Example:**  
100RN09S- 4A5FM2-20

**Description:** metal shell size 9 rcpt, nickel finish, 26 AWG wire type "A", non-std wire length 20 inches with M2 low profile jackscrews.

**100 R X XXX X - X X X X XX - XXX**

#### Connector Series

- 100** = metal shell per M83513
- 102** = all plastic (dimensionally identical to metal shell per M83513)
- 104** = stainless steel (dimensionally identical to metal shell per M83513)

#### Insulator Material

**R** = Polyphenylene Sulfide (Ryton)

#### Shell Finish

- Omit for series 102 & 104
- A** = anodize
  - C** = cadmium
  - G** = gold
  - I** = irridite/alodine
  - N** = electroless nickel
  - T** = tin

#### Connector Size (number of contacts)

09, 15, 21, 25, 31, 37, 51, 69, 100  
All sizes I.A.W. M83513 except size 69 (non-military)

#### Connector Type

- P** = Plug (pin)
- S** = Receptacle (socket)

#### Wire Size (AWG.)

- 1** = 32
  - 2** = 30
  - 3** = 28
  - 4** = 26 (M83513 standard) \*off shelf
  - 5** = 25 (solid wire only)
  - 6** = 24
- Omit for solder cup contacts

#### Wire Type

##### General Applications:

- A** = 7 strd, per NEMA-HP3 (MIL-W-16878/4)
- B** = 7 strd, per NEMA-HP3 (formerly MIL-W-16878/6)
- C** = 19 strd, per NEMA-HP3 (formerly MIL-W-16878/4)
- D** = 19 strd, per NEMA-HP3 (formerly MIL-W-16878/6)

##### Military/Aerospace Applications:

- E** = per MIL-W-22759/11 (M83513 standard)
  - F** = per MIL-W-22759/33 (space grade)
  - L** = solid wire uninsulated
- Omit for solder cup contacts

#### Non Std. Length (Inches)

Stranded Wire (no decimal values)  
e.g. **1** = 1 inches, **100** = 100 inches  
Solid Wire (0.109 < length < 1.00)  
e.g. **110** = .110 inches, **999** = .999 inches

#### Hardware (pre-installed by factory)

- B** = standard mounting holes
- P** = jackpost
- M2** = low profile jackscrew, allen head
- M3** = high profile jackscrew, allen head
- M5** = low profile jackscrew, slot head
- M6** = high profile jackscrew, slot head
- L** = captive low profile jackscrew
- K** = captive high profile jackscrew
- F** = forward float mount
- R** = reverse float mount

#### Wire Length ((inches +1.00/-0.00)

- A** = 18.00
  - B** = 36.00
  - C** = 72.00
  - D** = 0.500 (solid wire only +0.20/-0.00)
  - E** = 1.00 (solid wire only +0.20/-0.00)
  - F** = Non std. length
- Omit for solder cup contacts

#### Wire Color / Finish

- 1** = all white (M83513 standard) \*off shelf
  - 2** = all yellow
  - 3** = solid wire uninsulated, tin plated
  - 4** = solid wire uninsulated, gold plated
  - 5** = color coded per mil-std-681, system 1
  - 6** = 1st 10 colors blk. thru wht. repeated (M83513 standard) \*off shelf
- Omit for solder cup contacts

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Canada

## FEATURES

- Plastic and metal shells are intermateable and intermountable.
- Available in sizes 9 thru 100, solder cup or crimp termination.
- Wide selection of wire sizes, types, and colour finish.
- Wide selection of hardware options.

INCHES (MM)

## M83513 ORDERING INFORMATION - SOLDER CUP AND CRIMP TERMINATION

### Solder Cup Termination:

M83513/XX - X X

**Specification Sheet**

- 01 = plug (pin)
- 02 = receptacle (socket)

**Insert Arrangement**

- A = 9
- B = 15
- C = 21
- D = 25
- E = 31
- F = 37
- G = 51
- H = 100

**Shell Finish**

- C = cadmium
- N = electroless nickel
- P = passivated stainless steel

### Crimp Termination:

M83513/XX - X XX X

**Specification Sheet**

- 03 = plug (pin)
- 04 = receptacle (socket)

**Insert Arrangement**

- A = 9
- B = 15
- C = 21
- D = 25
- E = 31
- F = 37
- G = 51
- H = 100

**Shell Finish**

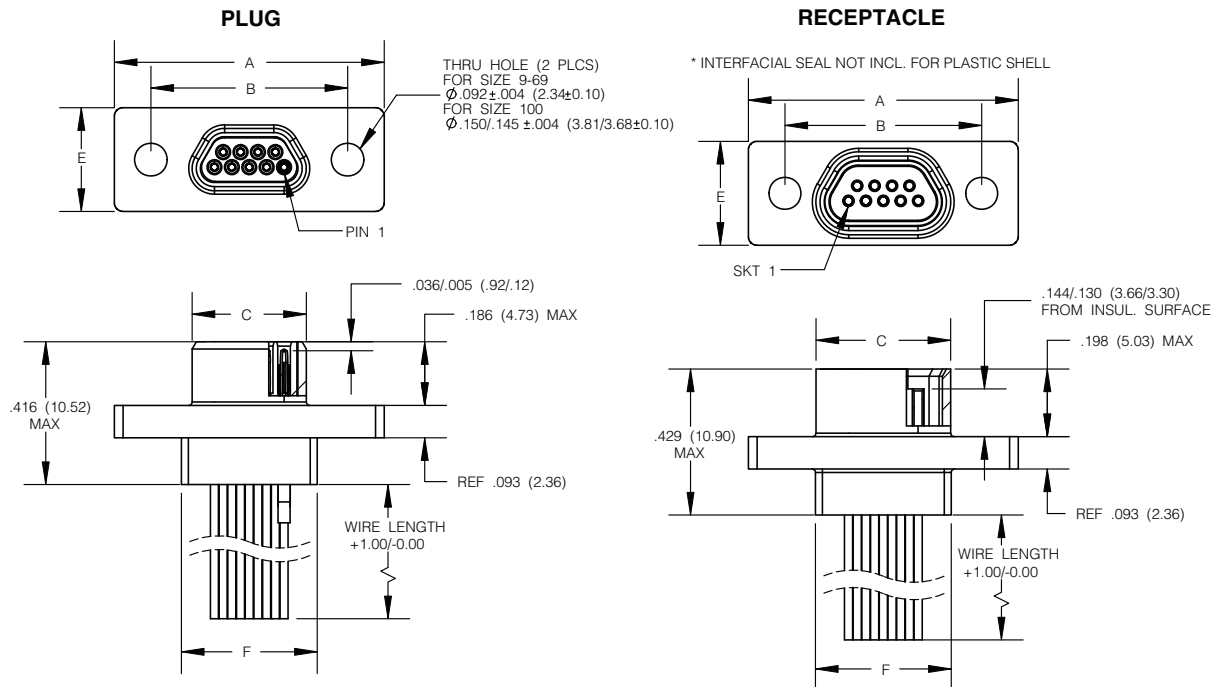
- C = cadmium
- N = electroless nickel
- P = passivated stainless steel

**Wire Type** (inches +1.00/-0.00)

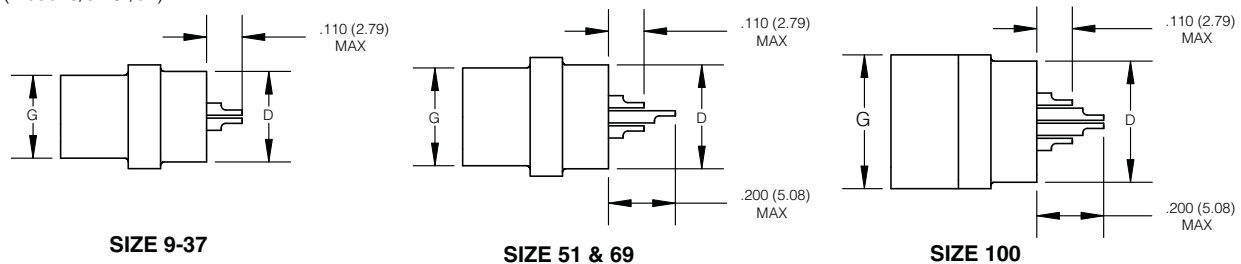
- 01 = M22759/11-26-9, 18"
- 02 = M22759/11-26-9, 36"
- 03 = M22759/11-26-(\*), 18"
- 04 = M22759/11-26-(\*), 36"
- 05 = A-A-59551, type S, 25 AWG, except shall be gold plated 10 micro-inches; 0.5"
- 06 = A-A-59551, type S, 25 AWG, except shall be gold plated 10 micro-inches; 1.0"
- 07 = A-A-59551, type S, 25 AWG, tin plated 100 micro-inches; 0.5"
- 08 = A-A-59551, type S, 25 AWG, tin plated 100 micro-inches; 1.0"
- 09 = M22759/33-26-9, 18"
- 10 = M22759/33-26-9, 36"
- 11 = M22759/33-26-(\*), 18"
- 12 = M22759/33-26-(\*), 36"
- 13 = M22759/11-26-9, 72"
- 14 = M22759/11-26-(\*), 72"
- 15 = M22759/33-26-9, 72"
- 16 = M22759/33-26-(\*), 72"
- 17 = 04035-26A-9, 18"
- 18 = 04035-26A-9, 36"
- 19 = 04035-26A-9, 72"
- 20 = 04035-26A-(\*), 18"
- 21 = 04035-26A-(\*), 36"
- 22 = 04035-26A-(\*), 72"

# SERIES 100, 102 & 104

## WIRE TERMINATION (M83513/03 & /04)



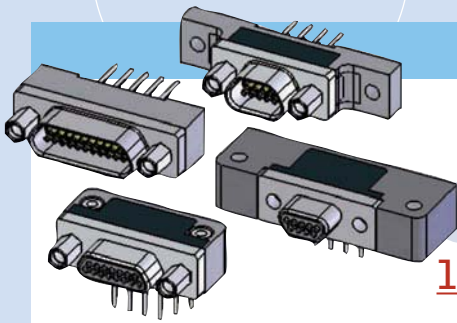
## SOLDER CUP TERMINATION PLUG / RECEPTACLE (M83513/01 & /02)



| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>MAX      |               | D<br>MAX    | E<br>MAX     | F<br>MAX      | G<br>MAX    |              |
|------|---------------|-------------------|---------------|---------------|-------------|--------------|---------------|-------------|--------------|
|      |               |                   | PLUG          | RCPT          |             |              |               | PLUG        | RCPT         |
| 09   | .785 (19.94)  | .565 (14.35)      | .334 (8.48)   | .402 (10.21)  | .270 (6.86) | .308 (7.82)  | .400 (10.16)  | .185 (4.70) | .253 (6.43)  |
| 15   | .935 (23.75)  | .715 (18.16)      | .484 (12.29)  | .552 (13.97)  | .270 (6.86) | .308 (7.82)  | .550 (13.97)  | .185 (4.70) | .253 (6.43)  |
| 21   | 1.085 (27.56) | .865 (21.97)      | .634 (16.10)  | .702 (17.83)  | .270 (6.86) | .308 (7.82)  | .700 (17.78)  | .185 (4.70) | .253 (6.43)  |
| 25   | 1.185 (30.10) | .965 (24.51)      | .734 (18.64)  | .802 (20.37)  | .270 (6.86) | .308 (7.82)  | .800 (20.32)  | .185 (4.70) | .253 (6.43)  |
| 31   | 1.335 (33.91) | 1.115 (28.32)     | .884 (22.45)  | .952 (24.18)  | .270 (6.86) | .308 (7.82)  | .950 (24.13)  | .185 (4.70) | .253 (6.43)  |
| 37   | 1.485 (37.72) | 1.265 (32.13)     | 1.034 (26.26) | 1.102 (27.99) | .270 (6.86) | .308 (7.82)  | 1.100 (27.94) | .185 (4.70) | .253 (6.43)  |
| 51   | 1.435 (36.45) | 1.215 (30.86)     | .984 (24.99)  | 1.052 (26.72) | .310 (7.87) | .351 (8.92)  | 1.050 (26.67) | .229 (5.82) | .296 (7.52)  |
| 69   | 1.735 (44.07) | 1.515 (38.48)     | 1.289 (32.74) | 1.357 (34.47) | .310 (7.87) | .351 (8.92)  | 1.350 (34.29) | .229 (5.82) | .296 (7.52)  |
| 100  | 2.170 (55.12) | 1.800 (45.72)     | 1.384 (35.13) | 1.508 (38.10) | .360 (9.14) | .394 (10.01) | 1.442 (36.63) | .271 (6.88) | .394 (10.01) |

INCHES (MM)

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## Series 100,102 & 104

Example: 100RN21P-CBRP1 Description: metal shell size 21 plug, nickel finish, CBR termination, pcb tail lead length .109 inches with jackposts included

**100 R X XXX X - BR X X X - XXX**

### Connector Series

- 100** = metal shell per M83513
- 102** = all plastic (dimensionally identical to metal shell per M83513)
- 104** = stainless steel (dimensionally identical to metal shell per M83513)

### Insulator Material

**R** = Polyphenylene Sulfide (Ryton)

### Shell Finish Omit for series 102 & 104

- A** = anodize
- C** = cadmium
- G** = gold
- I** = irridite/alodine
- N** = electroless nickel
- T** = tin

### Connector Size (number of contacts)

09, 15, 21, 25, 31, 37, 51, 69, 100  
All sizes I.A.W. M83513 except size 69 (non-military)

### Connector Type

- P** = Plug (pin)
- S** = Receptacle (socket)

### Non Std. Wire Length (Inches)

(0.109 < length < 1.00)  
e.g. **125** = .125 inches

### Lead Length (inches)

- 1** = .109 ± .015
- 2** = .140 ± .015
- 3** = .172 ± .015
- 4** = .250 ± .015
- F** = non std. length

### Threaded Insert (pre-installed)

**T** = threaded insert (PCB mounting option)  
Omit for no threaded insert

### Hardware for BS, BR, CBR & C6: (pre-installed)

- P** = jackpost  
Omit for no jackpost
- Hardware for C16: (pre-installed)**
- B** = standard mounting holes
- M2** = low profile jackscrew, allen head
- M3** = high profile jackscrew, allen head
- M5** = low profile jackscrew, slot head
- M6** = high profile jackscrew, slot head
- L** = captive low profile jackscrew
- K** = captive high profile jackscrew
- F** = forward float mount
- R** = reverse float mount

### Termination Type

- BS** = straight PCB per M83513/22 thru /27
- BR** = 90° PCB per M83513/16 thru /21
- CBR** = narrow 90° PCB per M83513/10 thru /15
- C6** = straight PCB per M83513/28 thru /33
- C16** = straight PCB with flange (C6 PC configuration)

### M83513 ORDERING INFORMATION

#### PRINTED CIRCUIT BOARD TERMINATION:

**M83513/XX - X XX X X**

### Specification Sheet

- 10** = plug (pin), CBR type, sizes 9-37
- 11** = plug (pin), CBR type, size 51
- 12** = plug (pin), CBR type, size 100
- 13** = receptacle (socket), CBR type, sizes 9-37
- 14** = receptacle (socket), CBR type, size 51
- 15** = receptacle (socket), CBR type, size 100
- 16** = plug (pin), BR type, sizes 9-37
- 17** = plug (pin), BR type, size 51
- 18** = plug (pin), BR type, size 100
- 19** = receptacle (socket), BR type, sizes 9-37
- 20** = receptacle (socket), BR type, size 51
- 21** = receptacle (socket), BR type, size 100
- 22** = plug (pin), BS type, sizes 9-37
- 23** = plug (pin), BS type, size 51
- 24** = plug (pin), BS type, size 100
- 25** = receptacle (socket), BS type, sizes 9-37
- 26** = receptacle (socket), BS type, size 51
- 27** = receptacle (socket), BS type, size 100
- 28** = plug (pin), C6 type, sizes 9-37
- 29** = plug (pin), C6 type, size 51
- 30** = plug (pin), C6 type, size 100
- 31** = receptacle (socket), C6 type, sizes 9-37
- 32** = receptacle (socket), C6 type, size 51
- 33** = receptacle (socket), C6 type, size 100

### Hardware

- N** = no jackpost or threaded insert
- P** = jackpost
- T** = threaded insert
- W** = jackpost and threaded insert

### Shell Finish

- C** = cadmium
- N** = electroless nickel
- P** = passivated stainless steel

### Lead Length (inches)

- 01** = .109 ± .015
- 02** = .140 ± .015
- 03** = .172 ± .015

### Insert Arrangement

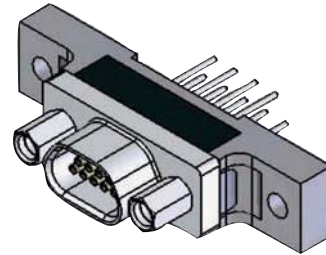
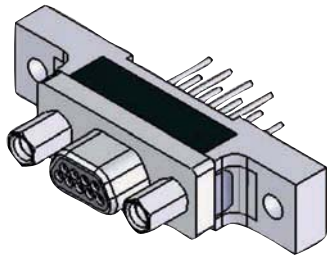
- A** = 9
- B** = 15
- C** = 21
- D** = 25
- E** = 31
- F** = 37
- G** = 51 (applicable for spec sheet 11, 14, 17, 20, 23, 26, 29 & 32)
- H** = 100 (applicable for spec sheet 12, 15, 18, 21, 24, 27, 30 & 33)

## FEATURES

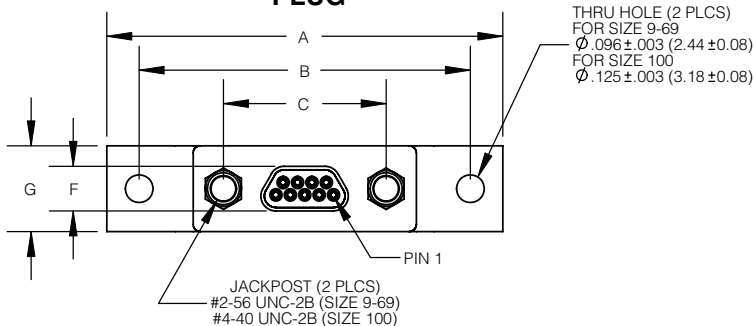
Available in sizes 9 thru 100, straight and right angle PCB termination. Solid copper 24 AWG PCB leads, tin plated, and solder dipped. Wide selection of hardware options. Consult factory for other wire size termination.

INCHES (MM)

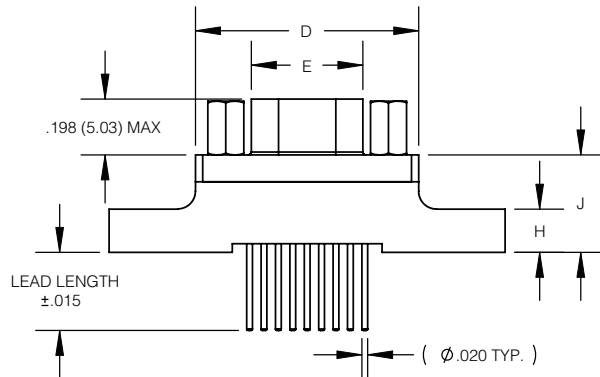
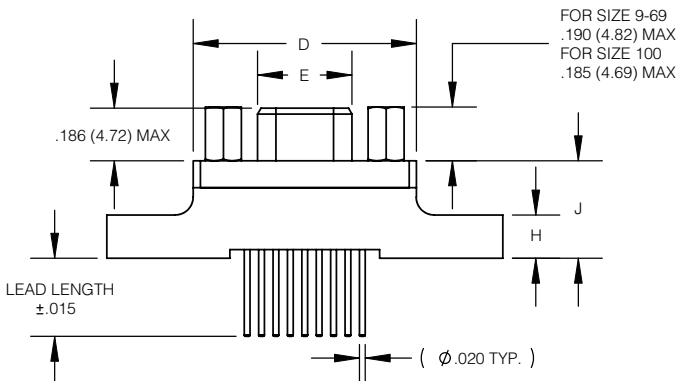
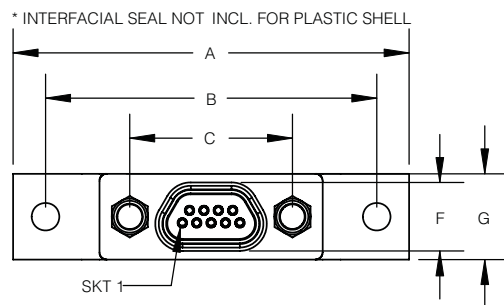
### Series 100, 102 & 104



**PLUG**



**RECEPTACLE**



| SIZE | A<br>MAX      | B<br>$\pm .005$ (0.13) | C<br>$\pm .005$ (0.13) | D<br>MAX      | E<br>MAX      |               | F<br>MAX    |              | G<br>MAX     | H<br>MAX    | J<br>MAX     |
|------|---------------|------------------------|------------------------|---------------|---------------|---------------|-------------|--------------|--------------|-------------|--------------|
|      |               |                        |                        |               | PLUG          | RCPT          | PLUG        | RCPT         |              |             |              |
| 09   | 1.390 (35.31) | 1.150 (29.21)          | .565 (14.35)           | .785 (19.84)  | .334 (8.48)   | .402 (10.21)  | .185 (4.70) | .253 (6.43)  | .308 (7.82)  | .165 (4.19) | .355 (9.02)  |
| 15   | 1.390 (35.31) | 1.150 (29.21)          | .715 (18.16)           | .935 (23.75)  | .484 (12.29)  | .552 (13.97)  | .185 (4.70) | .253 (6.43)  | .308 (7.82)  | .165 (4.19) | .355 (9.02)  |
| 21   | 1.690 (43.93) | 1.450 (36.83)          | .865 (21.97)           | 1.085 (27.56) | .634 (16.10)  | .702 (17.83)  | .185 (4.70) | .253 (6.43)  | .308 (7.82)  | .165 (4.19) | .355 (9.02)  |
| 25   | 1.740 (44.20) | 1.500 (38.10)          | .965 (24.51)           | 1.185 (30.10) | .734 (18.64)  | .802 (20.37)  | .185 (4.70) | .253 (6.43)  | .308 (7.82)  | .165 (4.19) | .355 (9.02)  |
| 31   | 2.040 (51.82) | 1.800 (45.72)          | 1.115 (28.32)          | 1.335 (33.91) | .884 (22.45)  | .952 (24.18)  | .185 (4.70) | .253 (6.43)  | .308 (7.82)  | .165 (4.19) | .355 (9.02)  |
| 37   | 2.340 (59.44) | 2.100 (53.34)          | 1.265 (32.13)          | 1.485 (37.72) | 1.034 (26.26) | 1.102 (27.99) | .185 (4.70) | .253 (6.43)  | .308 (7.82)  | .165 (4.19) | .355 (9.02)  |
| 51   | 2.270 (67.66) | 2.000 (50.80)          | 1.215 (30.86)          | 1.435 (36.45) | .984 (24.99)  | 1.052 (26.72) | .228 (5.79) | .296 (7.52)  | .351 (8.92)  | .165 (4.19) | .355 (9.02)  |
| 69   | 2.870 (72.90) | 2.600 (66.04)          | 1.515 (38.48)          | 1.735 (44.07) | 1.289 (32.74) | 1.357 (34.47) | .228 (5.79) | .296 (7.52)  | .351 (8.92)  | .165 (4.19) | .355 (9.02)  |
| 100  | 3.070 (77.98) | 2.800 (71.12)          | 1.800 (45.72)          | 2.170 (55.12) | 1.384 (35.13) | 1.508 (38.10) | .271 (6.88) | .394 (10.01) | .460 (11.68) | .303 (7.70) | .550 (12.70) |

INCHES (MM)



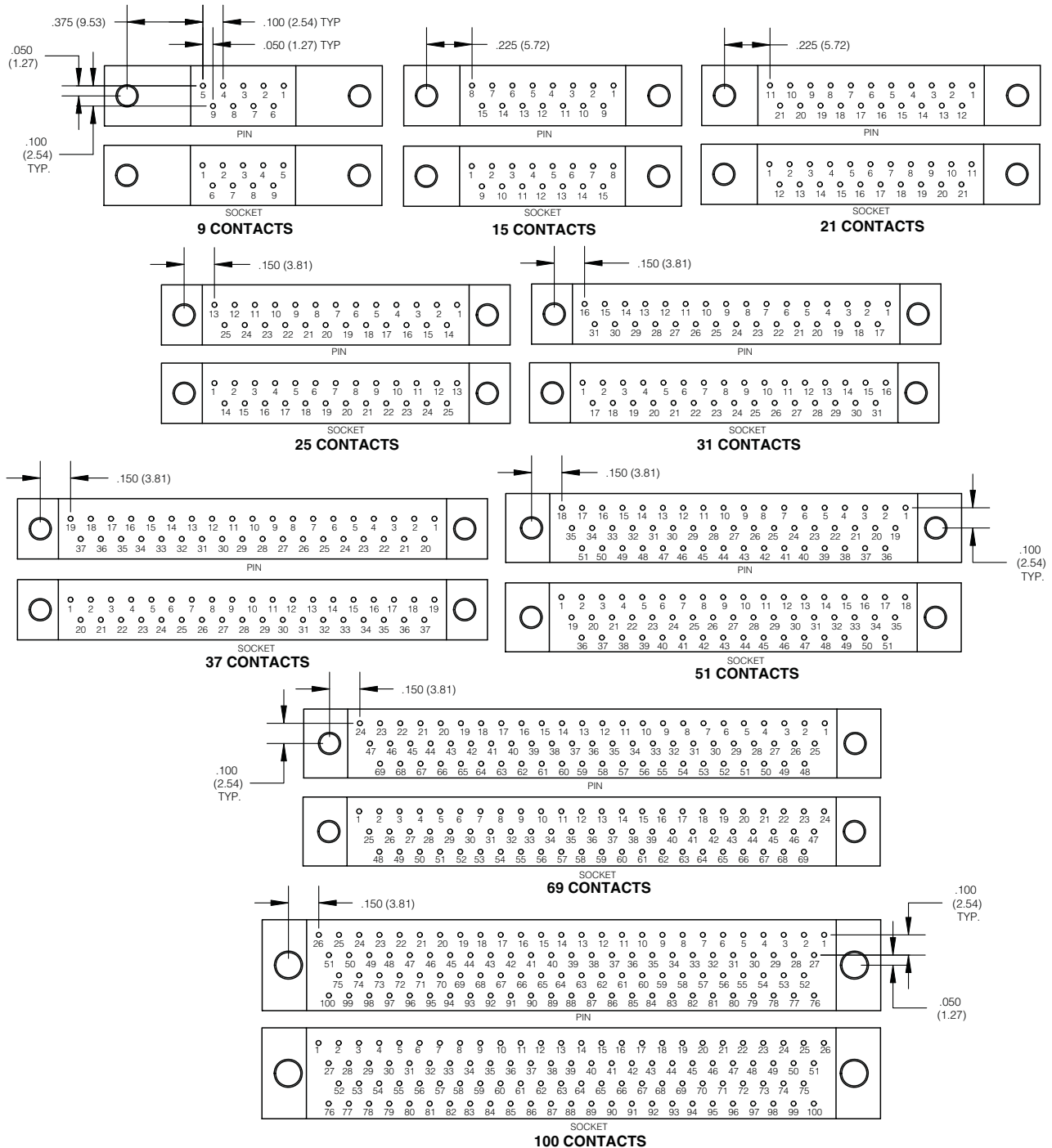


# SERIES 100, 101, 102 & 104

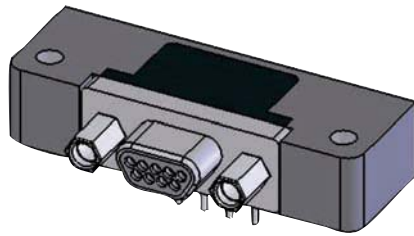
STRAIGHT PC CONFIGURATIONS (REAR VIEW)

.100 (2.54) x .100 (2.54) grid pattern, offset .050 (1.27)

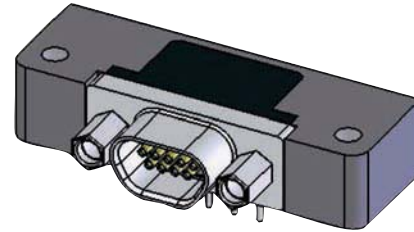
Cavity identification numbers are for reference only and does not appear on the connector.



### Series 100, 102 & 104

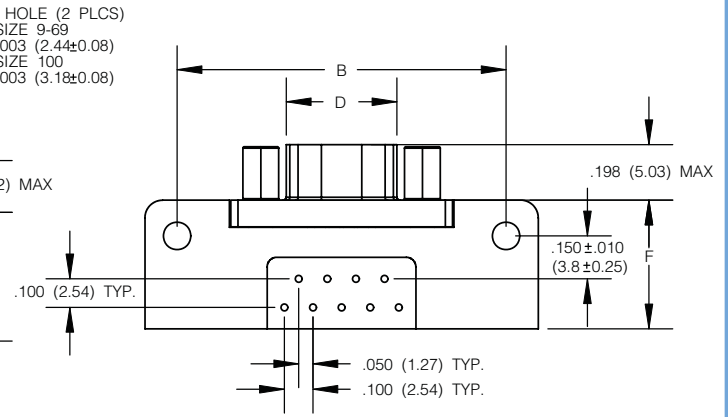
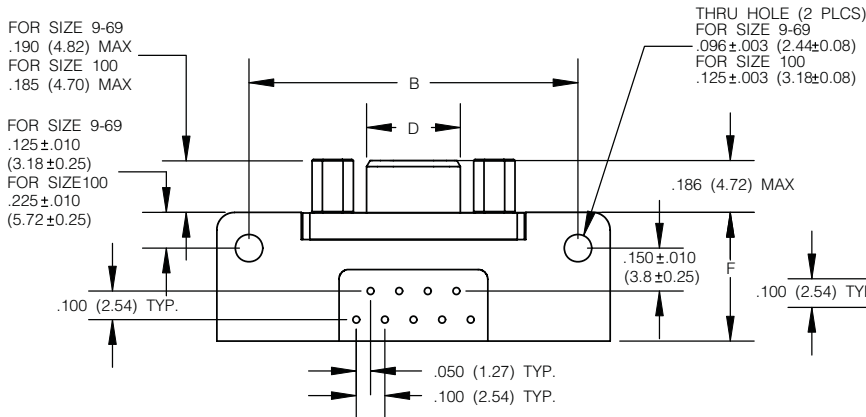
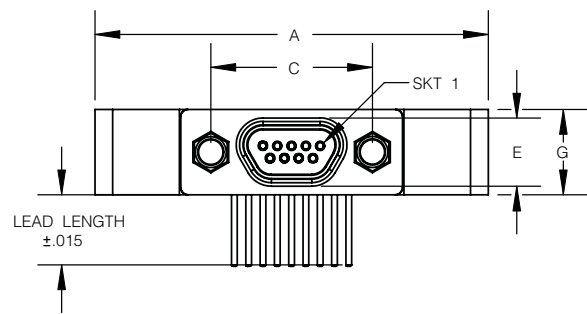
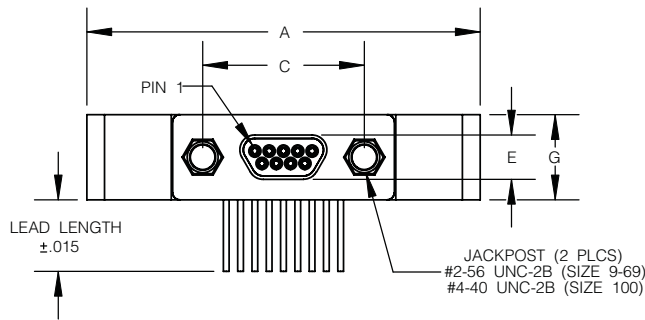


**PLUG**



**RECEPTACLE**

\* INTERFACIAL SEAL NOT INCL. FOR PLASTIC SHELL



| SIZE | A<br>MAX      | B<br>±.007 (0.18) | C<br>±.005 (0.13) | D<br>MAX      |               | E<br>MAX    |              | F<br>MAX     | G<br>MAX     |
|------|---------------|-------------------|-------------------|---------------|---------------|-------------|--------------|--------------|--------------|
|      |               |                   |                   | PLUG          | RCPT          | PLUG        | RCPT         |              |              |
| 09   | 1.390 (35.31) | 1.150 (29.21)     | .565 (14.35)      | .334 (8.48)   | .402 (10.21)  | .185 (4.70) | .253 (6.43)  | .455 (11.56) | .308 (7.82)  |
| 15   | 1.540 (39.12) | 1.300 (33.02)     | .715 (18.16)      | .484 (12.29)  | .552 (13.97)  | .185 (4.70) | .253 (6.43)  | .455 (11.56) | .308 (7.82)  |
| 21   | 1.690 (42.93) | 1.450 (36.83)     | .865 (21.97)      | .634 (16.10)  | .702 (17.83)  | .185 (4.70) | .253 (6.43)  | .455 (11.56) | .308 (7.82)  |
| 25   | 1.790 (45.47) | 1.550 (39.37)     | .965 (24.51)      | .734 (18.64)  | .802 (20.37)  | .185 (4.70) | .253 (6.43)  | .455 (11.56) | .308 (7.82)  |
| 31   | 2.040 (51.82) | 1.800 (45.72)     | 1.115 (28.32)     | .884 (22.45)  | .952 (24.18)  | .185 (4.70) | .253 (6.43)  | .455 (11.56) | .308 (7.82)  |
| 37   | 2.340 (59.44) | 2.100 (53.34)     | 1.265 (32.13)     | 1.034 (26.26) | 1.102 (27.99) | .185 (4.70) | .253 (6.43)  | .455 (11.56) | .308 (7.82)  |
| 51   | 1.875 (47.63) | 1.600 (40.64)     | 1.215 (30.86)     | .984 (24.99)  | 1.052 (26.72) | .228 (5.79) | .296 (7.52)  | .565 (14.35) | .351 (8.92)  |
| 69   | 2.500 (63.50) | 2.200 (55.88)     | 1.515 (38.48)     | 1.289 (32.74) | 1.357 (34.47) | .228 (5.79) | .296 (7.52)  | .565 (14.35) | .351 (8.92)  |
| 100  | 2.780 (70.61) | 2.500 (63.50)     | 1.800 (45.72)     | 1.386 (35.15) | 1.508 (38.10) | .271 (6.88) | .394 (10.01) | .765 (19.43) | .394 (10.01) |

INCHES (MM)

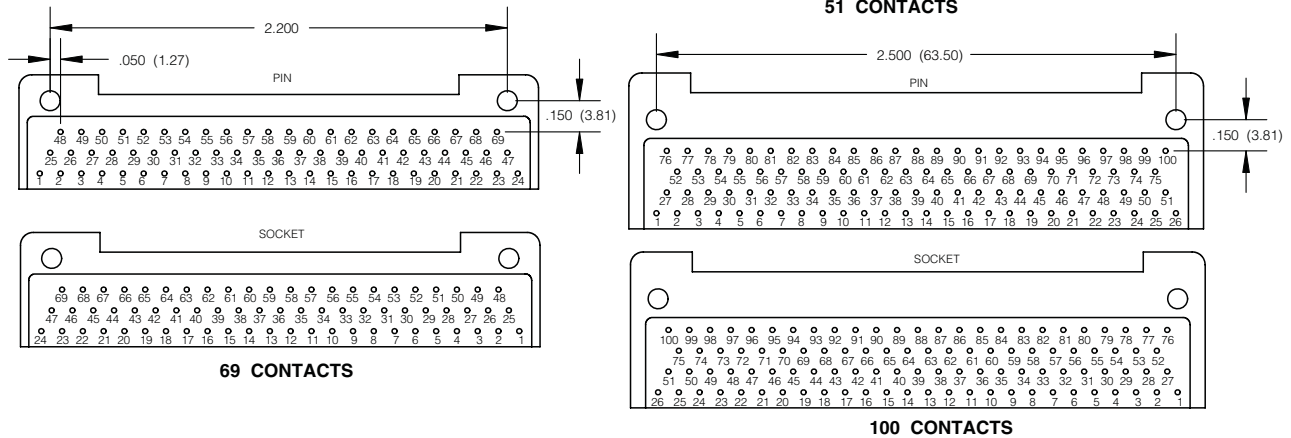
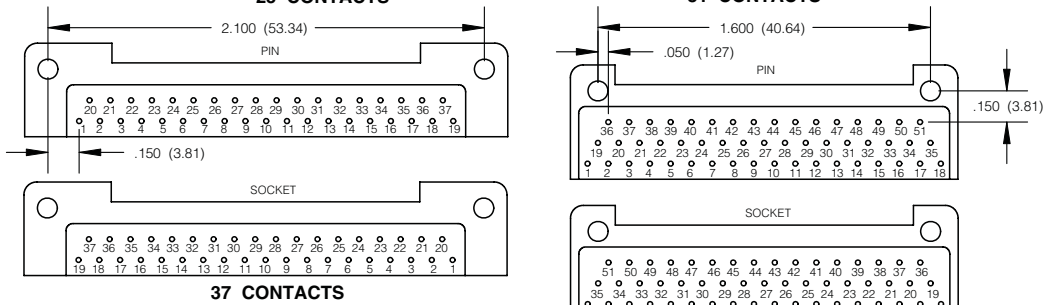
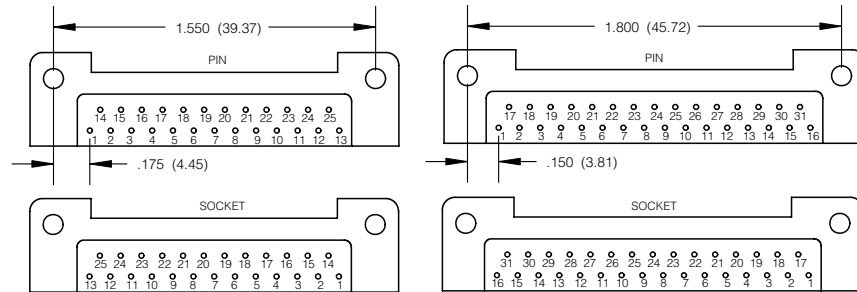
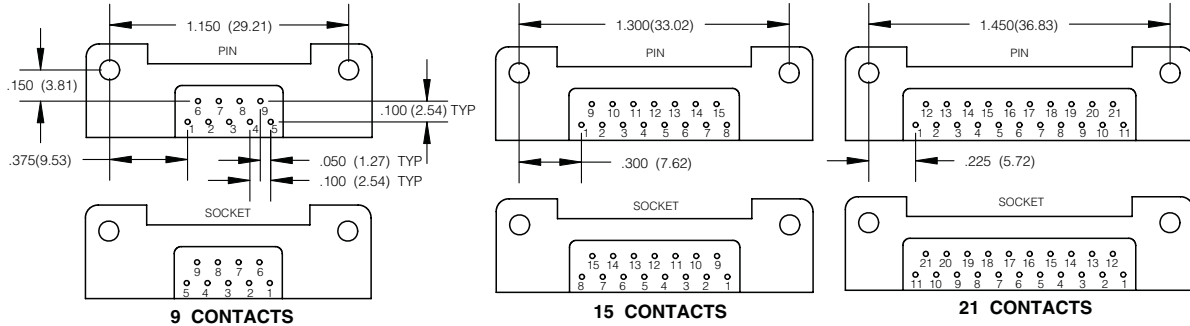


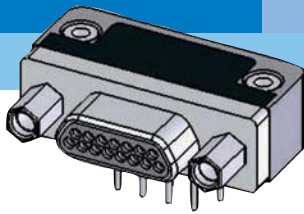
# SERIES 100, 101, 102 & 104

## RIGHT ANGLE (90 DEG) PC CONFIGURATIONS

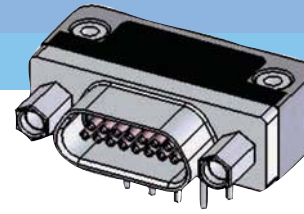
.100 (2.54) x .100 (2.54) grid pattern, offset .050 (1.27)

Cavity identification numbers are for reference only and does not appear on the connector.





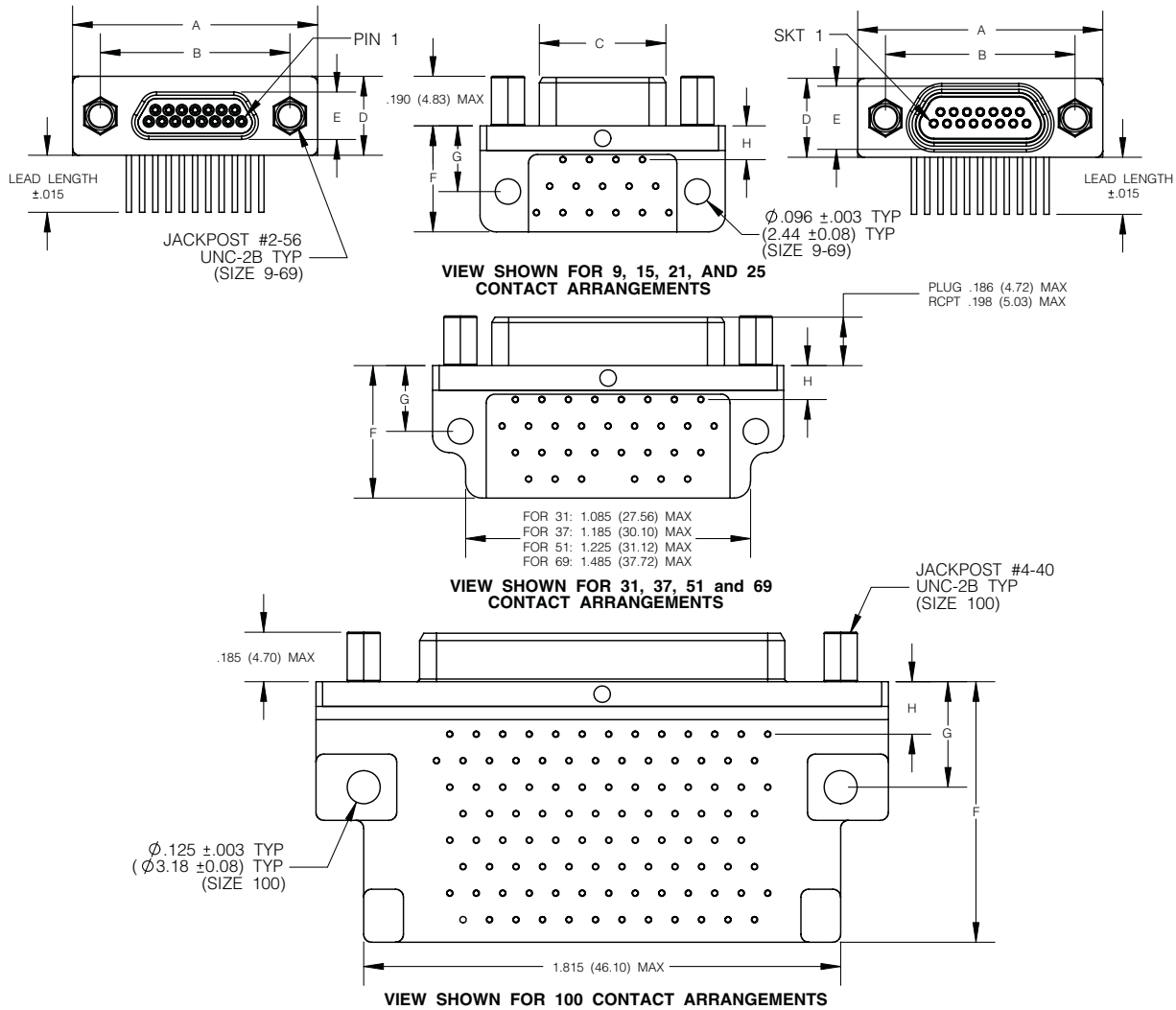
PLUG



RECEPTACLE

\*INTERFACIAL SEAL NOT INCL. FOR PLASTIC SHELL

Series 100, 102 & 104



| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>MAX      |               | D<br>MAX     | E<br>MAX    |              | F<br>MAX      | G<br>±.010 (0.25) | H<br>±.010 (0.25) |
|------|---------------|-------------------|---------------|---------------|--------------|-------------|--------------|---------------|-------------------|-------------------|
|      |               |                   | PLUG          | RCPT          |              | PLUG        | RCPT         |               |                   |                   |
| 09   | .785 (19.94)  | .565 (14.35)      | .334 (8.48)   | .402 (10.21)  | .308 (7.82)  | .185 (4.70) | .253 (6.43)  | .420 (10.67)  | .250 (6.35)       | .230 (5.81)       |
| 15   | .935 (23.75)  | .715 (18.16)      | .484 (12.29)  | .552 (13.97)  | .308 (7.82)  | .185 (4.70) | .253 (6.43)  | .420 (10.67)  | .250 (6.35)       | .130 (3.30)       |
| 21   | 1.085 (27.56) | .865 (21.97)      | .634 (16.10)  | .702 (17.83)  | .308 (7.82)  | .185 (4.70) | .253 (6.43)  | .420 (10.67)  | .250 (6.35)       | .130 (3.30)       |
| 25   | 1.185 (30.10) | .965 (24.51)      | .734 (18.64)  | .802 (20.37)  | .308 (7.82)  | .185 (4.70) | .253 (6.43)  | .420 (10.67)  | .250 (6.35)       | .130 (3.30)       |
| 31   | 1.335 (33.91) | 1.115 (28.32)     | .884 (22.45)  | .952 (24.18)  | .308 (7.82)  | .185 (4.70) | .253 (6.43)  | .520 (13.21)  | .250 (6.35)       | .130 (3.30)       |
| 37   | 1.485 (37.72) | 1.265 (32.13)     | 1.034 (26.26) | 1.102 (27.99) | .308 (7.82)  | .185 (4.70) | .253 (6.43)  | .520 (13.21)  | .250 (6.35)       | .130 (3.30)       |
| 51   | 1.435 (36.45) | 1.215 (30.86)     | .984 (24.99)  | 1.052 (26.72) | .351 (8.92)  | .228 (5.79) | .296 (7.52)  | .650 (16.15)  | .300 (7.62)       | .150 (3.81)       |
| 69   | 1.735 (44.07) | 1.515 (38.48)     | 1.289 (32.74) | 1.357 (34.47) | .351 (8.92)  | .228 (5.79) | .296 (7.52)  | .755 (19.18)  | .300 (7.62)       | .150 (3.81)       |
| 100  | 2.170 (55.12) | 1.800 (45.72)     | 1.386 (35.15) | 1.508 (38.10) | .394 (10.01) | .271 (6.88) | .394 (10.01) | 1.000 (25.40) | .400 (10.16)      | .200 (5.08)       |

INCHES (MM)

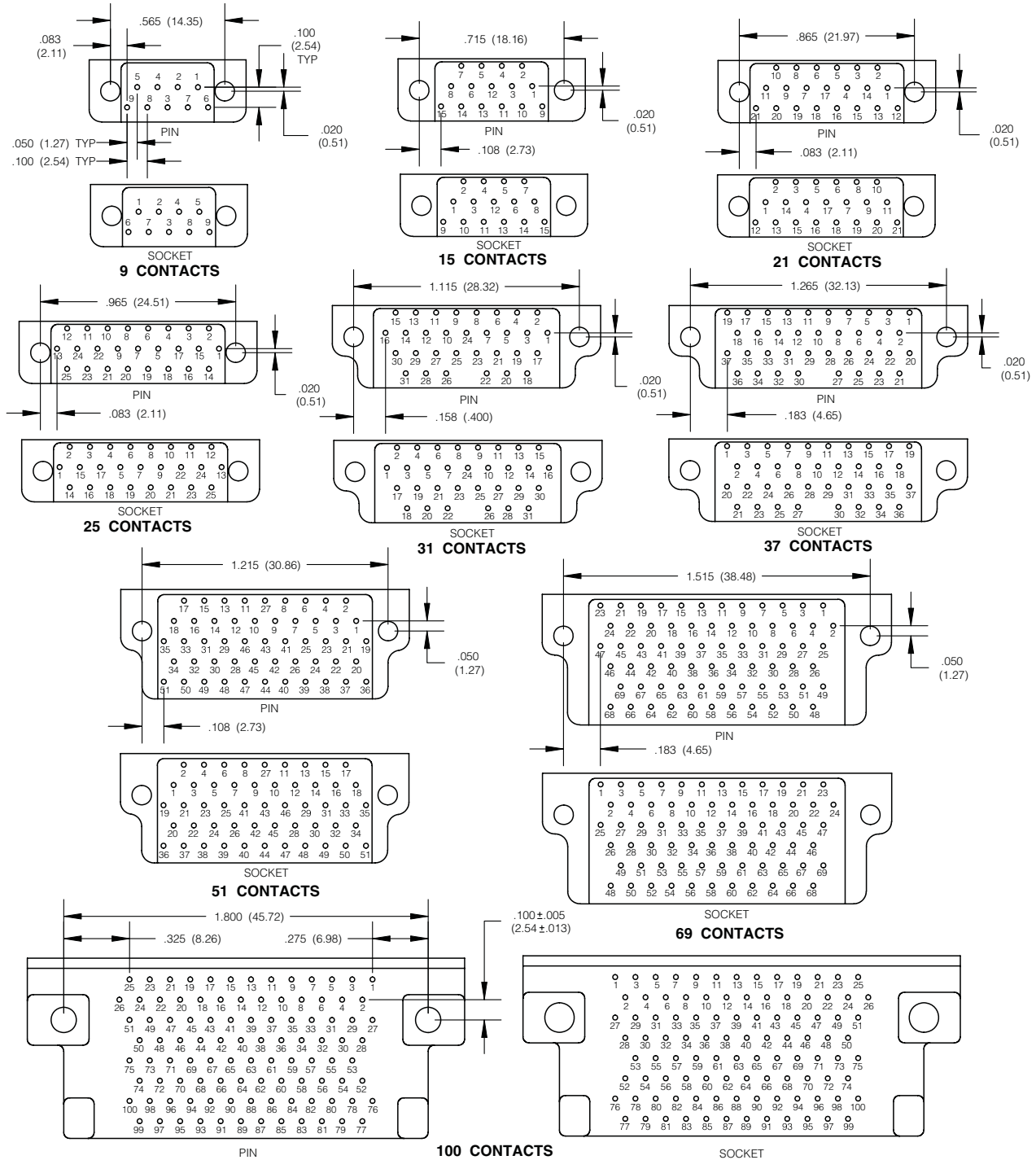


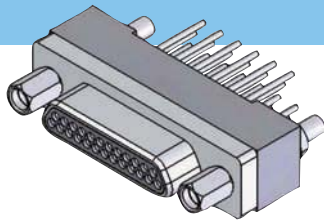
# SERIES 100, 101, 102 & 104

## RIGHT ANGLE (90 DEG) NARROW PROFILE PC CONFIGURATIONS

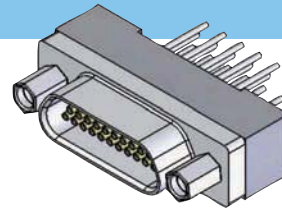
.100 (2.54) x .100 (2.54) grid pattern, offset .050 (1.27)

Cavity identification numbers are for reference only and does not appear on the connector.

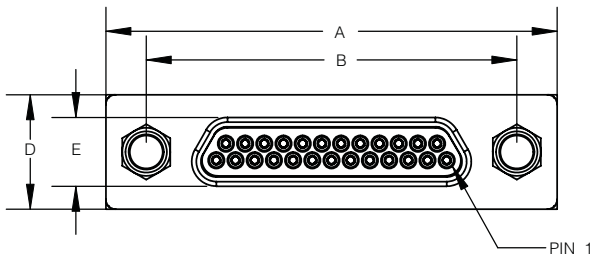




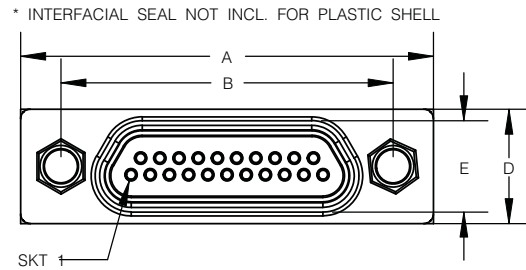
Series 100, 102 & 104



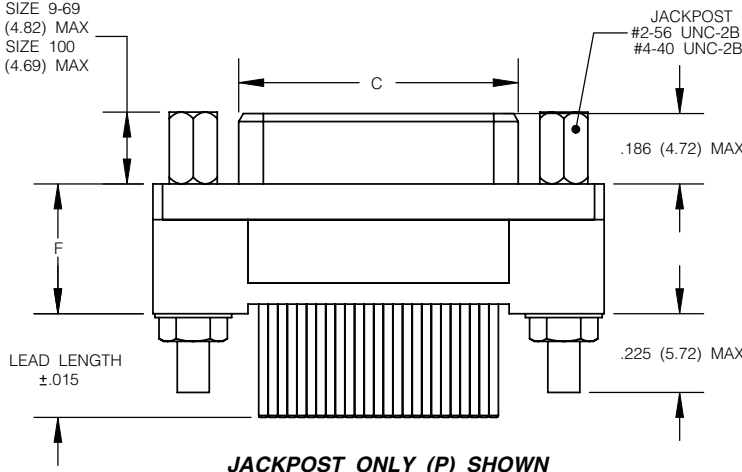
PLUG



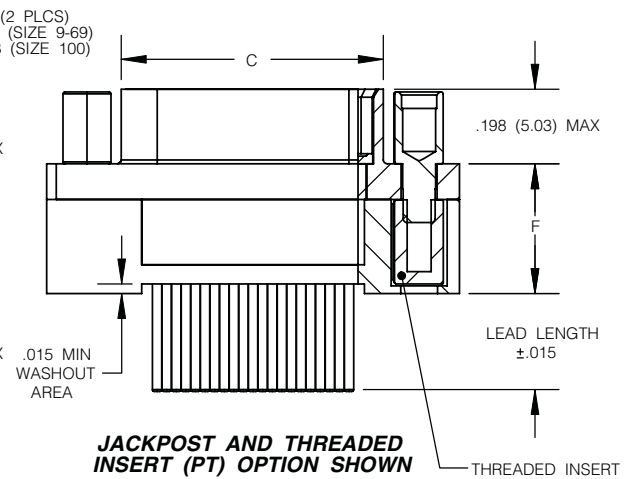
RECEPTACLE



FOR SIZE 9-69  
.190 (4.82) MAX  
FOR SIZE 100  
.185 (4.69) MAX



JACKPOST ONLY (P) SHOWN

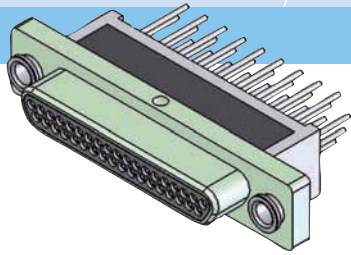


JACKPOST AND THREADED INSERT (PT) OPTION SHOWN

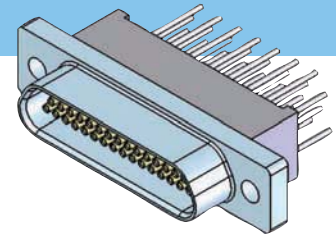
| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>MAX      |               | D<br>MAX     | E<br>MAX    |              | F<br>MAX     |
|------|---------------|-------------------|---------------|---------------|--------------|-------------|--------------|--------------|
|      |               |                   | PLUG          | RCPT          |              | PLUG        | RCPT         |              |
| 09   | .785 (19.94)  | .565 (14.35)      | .334 (8.48)   | .402 (10.21)  | .310 (7.87)  | .185 (4.70) | .253 (6.43)  | .335 (8.51)  |
| 15   | .935 (23.75)  | .715 (18.16)      | .484 (12.29)  | .552 (13.97)  | .310 (7.87)  | .185 (4.70) | .253 (6.43)  | .335 (8.51)  |
| 21   | 1.085 (27.56) | .865 (21.97)      | .634 (16.10)  | .702 (17.83)  | .310 (7.87)  | .185 (4.70) | .253 (6.43)  | .335 (8.51)  |
| 25   | 1.185 (30.10) | .965 (24.51)      | .734 (18.64)  | .802 (20.37)  | .310 (7.87)  | .185 (4.70) | .253 (6.43)  | .335 (8.51)  |
| 31   | 1.335 (33.91) | 1.115 (28.32)     | .884 (22.45)  | .952 (24.18)  | .310 (7.87)  | .185 (4.70) | .253 (6.43)  | .335 (8.51)  |
| 37   | 1.485 (37.72) | 1.265 (32.13)     | 1.034 (26.26) | 1.102 (27.99) | .310 (7.87)  | .185 (4.70) | .253 (6.43)  | .335 (8.51)  |
| 51   | 1.435 (36.45) | 1.215 (30.86)     | .984 (24.99)  | 1.052 (26.72) | .400 (10.16) | .228 (5.79) | .296 (7.52)  | .335 (8.51)  |
| 69   | 1.735 (44.07) | 1.515 (38.48)     | 1.289 (32.74) | 1.357 (34.47) | .400 (10.16) | .228 (5.79) | .296 (7.52)  | .335 (8.51)  |
| 100  | 2.160 (54.86) | 1.800 (45.72)     | 1.384 (35.13) | 1.508 (38.10) | .510 (12.95) | .271 (6.88) | .394 (10.01) | .430 (10.92) |

INCHES (MM)

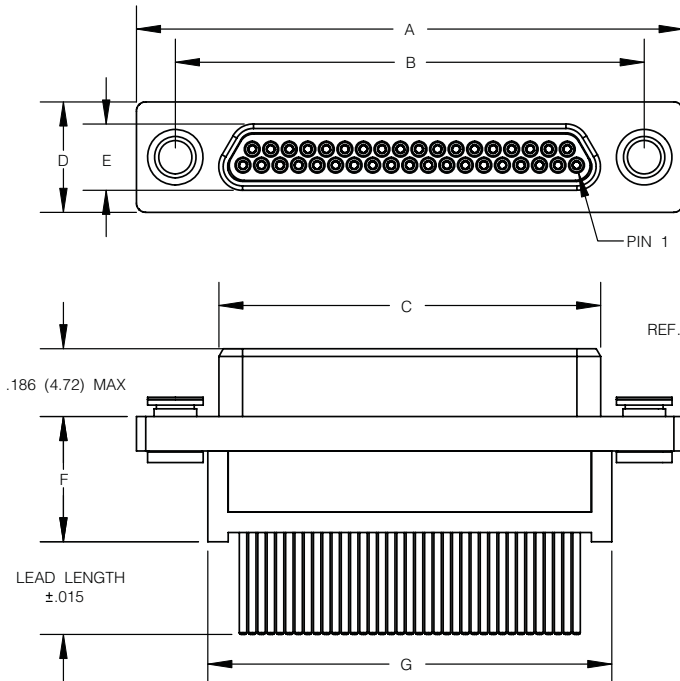




SERIES 100, 102 & 104

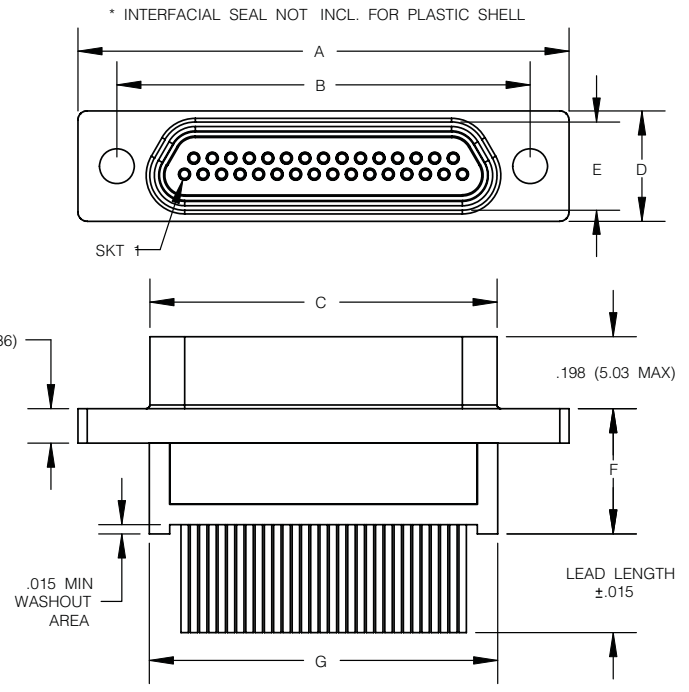


PLUG



FORWARD FLOAT MOUNT (F) SHOWN

RECEPTACLE



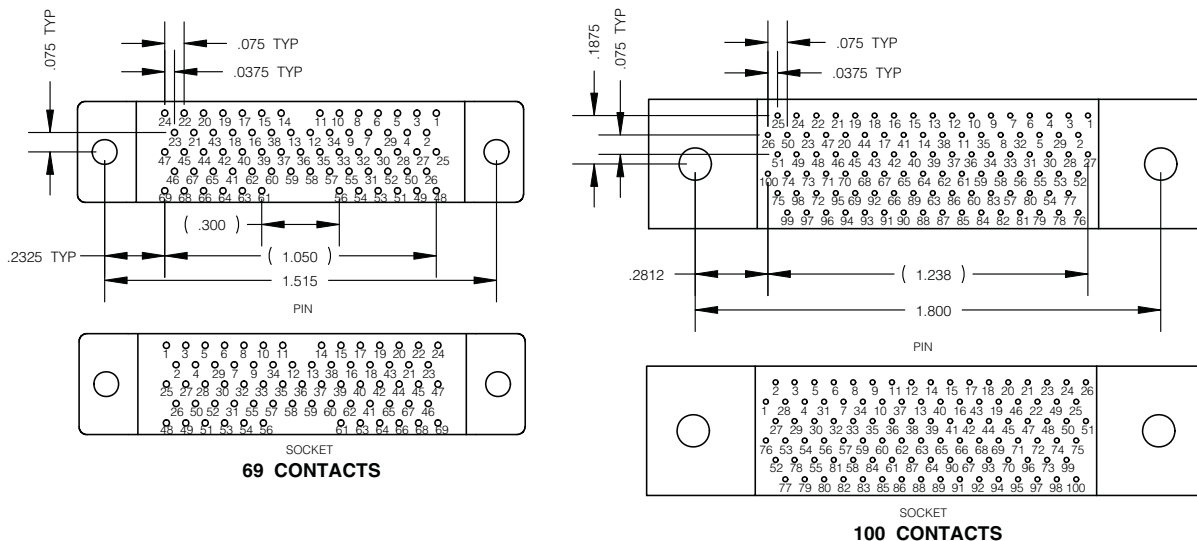
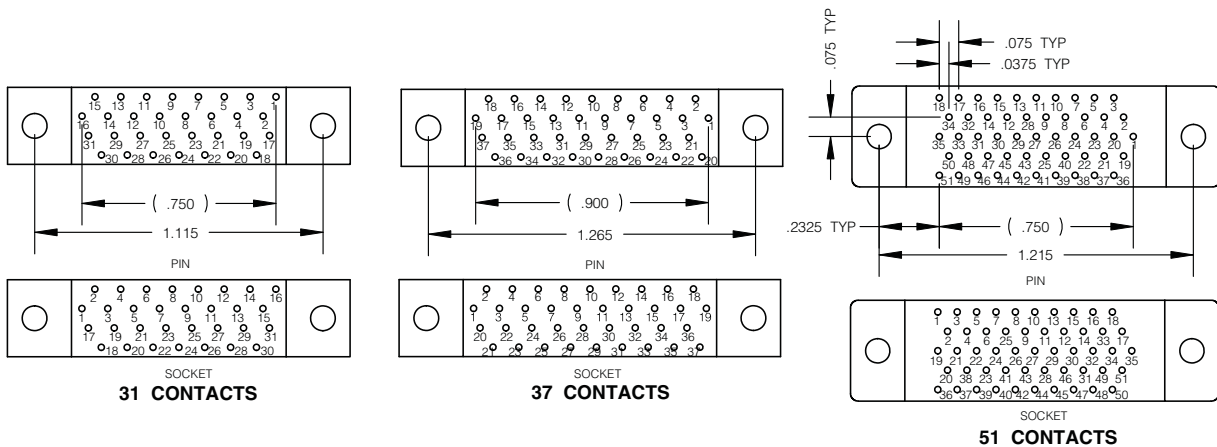
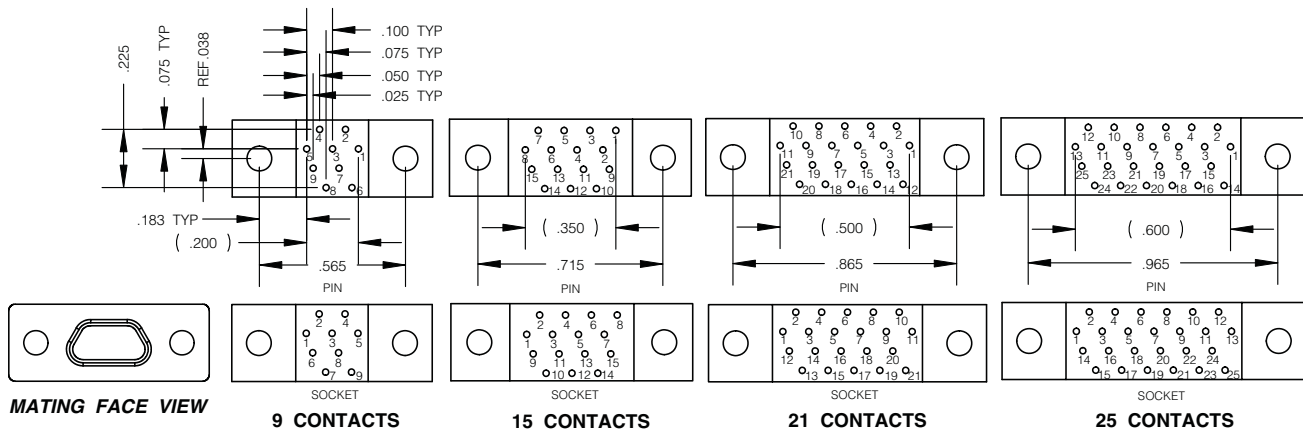
STANDARD MOUNTING HOLE (B) SHOWN

| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>MAX      |               | D<br>MAX     | E<br>MAX    |              | F<br>MAX     | G<br>MAX      |
|------|---------------|-------------------|---------------|---------------|--------------|-------------|--------------|--------------|---------------|
|      |               |                   | PLUG          | RCPT          |              | PLUG        | RCPT         |              |               |
| 09   | .785 (19.94)  | .565 (14.35)      | .334 (8.48)   | .402 (10.21)  | .310 (7.87)  | .185 (4.70) | .253 (6.43)  | .335 (8.51)  | .395 (10.03)  |
| 15   | .935 (23.75)  | .715 (18.16)      | .484 (12.29)  | .552 (13.97)  | .310 (7.87)  | .185 (4.70) | .253 (6.43)  | .335 (8.51)  | .545 (13.84)  |
| 21   | 1.085 (27.56) | .865 (21.97)      | .634 (16.10)  | .702 (17.83)  | .310 (7.87)  | .185 (4.70) | .253 (6.43)  | .335 (8.51)  | .695 (17.65)  |
| 25   | 1.185 (30.10) | .965 (24.51)      | .734 (18.64)  | .802 (20.37)  | .310 (7.87)  | .185 (4.70) | .253 (6.43)  | .335 (8.51)  | .795 (20.19)  |
| 31   | 1.335 (33.91) | 1.115 (28.32)     | .884 (22.45)  | .952 (24.18)  | .310 (7.87)  | .185 (4.70) | .253 (6.43)  | .335 (8.51)  | .945 (24.00)  |
| 37   | 1.485 (37.72) | 1.265 (32.13)     | 1.034 (26.26) | 1.102 (27.99) | .310 (7.87)  | .185 (4.70) | .253 (6.43)  | .335 (8.51)  | 1.095 (27.81) |
| 51   | 1.435 (36.45) | 1.215 (30.86)     | .984 (24.99)  | 1.052 (26.72) | .400 (10.16) | .228 (5.79) | .296 (7.52)  | .335 (8.51)  | 1.050 (26.67) |
| 69   | 1.735 (44.07) | 1.515 (38.48)     | 1.289 (32.74) | 1.357 (34.47) | .400 (10.16) | .228 (5.79) | .296 (7.52)  | .335 (8.51)  | 1.350 (34.29) |
| 100  | 2.160 (54.86) | 1.800 (45.72)     | 1.384 (35.13) | 1.508 (38.10) | .510 (12.95) | .271 (6.88) | .394 (10.01) | .430 (10.92) | 1.450 (36.83) |

# Series 100, 102 & 104

## VERTICAL MOUNT (TERMINATION VIEW)

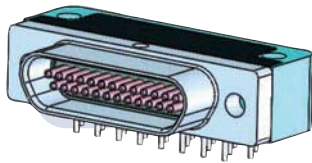
Cavity identification numbers are for reference only and does not appear on the connector.



INCHES (MM)







## Series 110

Example:  
110RN21P-CBRP1

Description: metal shell size 21 plug, reversed polarization, nickel finish, CBR termination, pcb tail lead length .109 inches with jackposts included.

**110 R X XXX X - CBR X X X - XXX**

**Connector Series**

110 = reversed CBR type  
metal shell per M83513

**Insulator Material**

R = Polyphenylene Sulfide (Ryton)

**Shell Finish**

A = anodize  
C = cadmium  
G = gold  
I = irridite/alodine  
N = electroless nickel  
T = tin

**Connector Size (number of contacts)**

09, 15, 21, 25, 31, 37, 51, 69, 100  
All sizes I.A.W. M83513 except size 69 (non-military)

**Connector Type**

P = Plug (pin)  
S = Receptacle (socket)

**Non Std. Wire Length**

(0.109 < length < 1.00)  
e.g. 125 = .125 inches

**Lead Length (inches)**

1 = .109 ± .015  
2 = .140 ± .015  
3 = .172 ± .015  
4 = .250 ± .015  
F = non std. length (add to end of part no.)

**Threaded Insert (pre-installed)**

T = threaded insert (PCB mounting option)  
Omit for no threaded insert

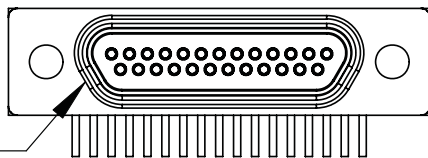
**Hardware (pre-installed)**

P = jackpost  
Omit for no jackpost

**Termination Type**

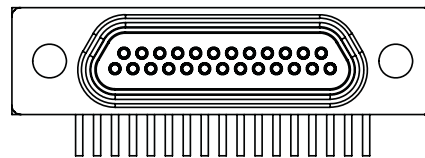
CBR = narrow 90° PCB (dimensionally same as M83513/10 thru /15)

### REVERSED POLARIZATION CBR CONNECTOR



POLARIZATION /  
"D" SHAPE KEYSTONE

### STANDARD CBR CONNECTOR



## FEATURES

Polarization is reversed from a standard series 100 CBR type connector.

Available in sizes 9 thru 100, right angle PCB termination.

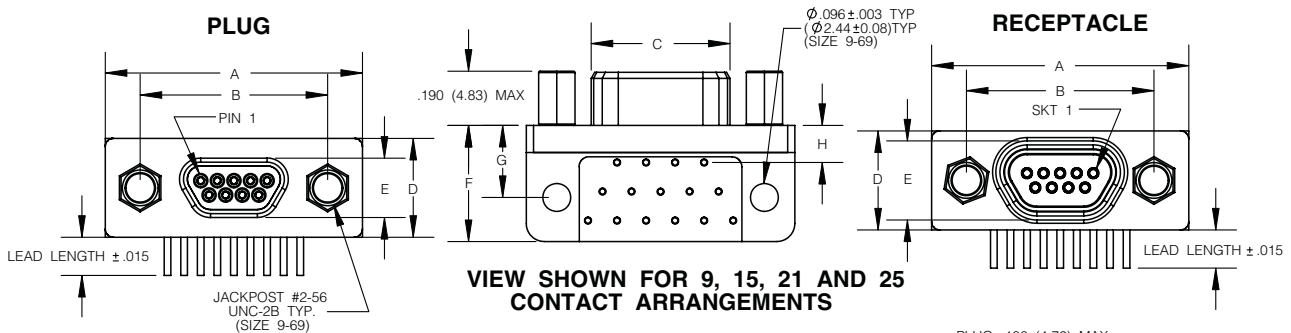
Solid copper 24 AWG PCB leads, tin plated, and solder dipped.

Wide selection of hardware options.

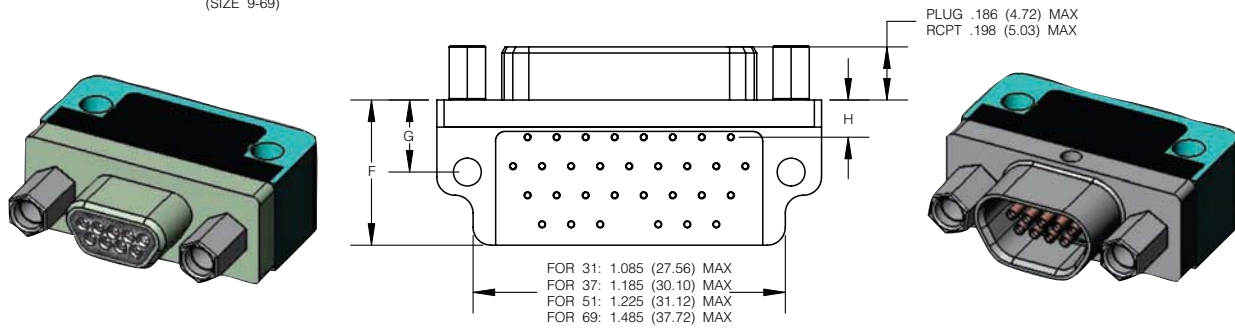
**Amphenol**  
Canada

INCHES (MM)

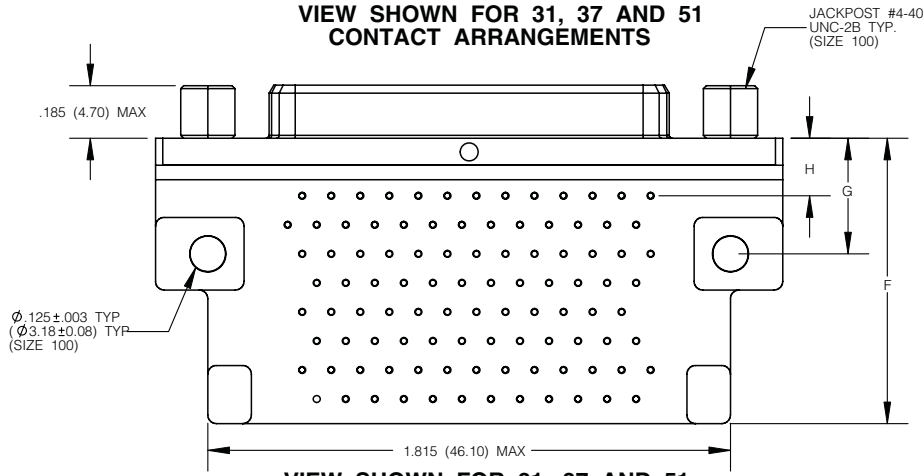
### Series 110



VIEW SHOWN FOR 9, 15, 21 AND 25 CONTACT ARRANGEMENTS



VIEW SHOWN FOR 31, 37 AND 51 CONTACT ARRANGEMENTS



VIEW SHOWN FOR 31, 37 AND 51 CONTACT ARRANGEMENTS

| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>MAX      |               | D<br>MAX     | E<br>MAX    |              | F<br>MAX      | G<br>±.010 (0.25) | H<br>±.010 (0.25) |
|------|---------------|-------------------|---------------|---------------|--------------|-------------|--------------|---------------|-------------------|-------------------|
|      |               |                   | PLUG          | RCPT          |              | PLUG        | RCPT         |               |                   |                   |
| 09   | .785 (19.94)  | .565 (14.35)      | .334 (8.48)   | .402 (10.21)  | .308 (7.82)  | .185 (4.70) | .253 (6.43)  | .420 (10.67)  | .250 (6.35)       | .230 (5.81)       |
| 15   | .935 (23.75)  | .715 (18.16)      | .484 (12.29)  | .552 (13.97)  | .308 (7.82)  | .185 (4.70) | .253 (6.43)  | .420 (10.67)  | .250 (6.35)       | .130 (3.30)       |
| 21   | 1.085 (27.56) | .865 (21.97)      | .634 (16.10)  | .702 (17.83)  | .308 (7.82)  | .185 (4.70) | .253 (6.43)  | .420 (10.67)  | .250 (6.35)       | .130 (3.30)       |
| 25   | 1.185 (30.10) | .965 (24.51)      | .734 (18.64)  | .802 (20.37)  | .308 (7.82)  | .185 (4.70) | .253 (6.43)  | .420 (10.67)  | .250 (6.35)       | .130 (3.30)       |
| 31   | 1.335 (33.91) | 1.115 (28.32)     | .884 (22.45)  | .952 (24.18)  | .308 (7.82)  | .185 (4.70) | .253 (6.43)  | .520 (13.21)  | .250 (6.35)       | .130 (3.30)       |
| 37   | 1.485 (37.72) | 1.265 (32.13)     | 1.034 (26.26) | 1.102 (27.99) | .308 (7.82)  | .185 (4.70) | .253 (6.43)  | .520 (13.21)  | .250 (6.35)       | .130 (3.30)       |
| 51   | 1.435 (36.45) | 1.215 (30.86)     | .984 (24.99)  | 1.052 (26.72) | .351 (8.92)  | .228 (5.79) | .296 (7.52)  | .650 (16.15)  | .300 (7.62)       | .150 (3.81)       |
| 69   | 1.735 (44.07) | 1.515 (38.48)     | 1.289 (32.74) | 1.357 (34.47) | .351 (8.92)  | .228 (5.79) | .296 (7.52)  | .755 (19.18)  | .300 (7.62)       | .150 (3.81)       |
| 100  | 2.170 (55.12) | 1.800 (45.72)     | 1.386 (35.15) | 1.508 (38.10) | .394 (10.01) | .271 (6.88) | .394 (10.01) | 1.000 (25.40) | .400 (10.16)      | .200 (5.08)       |

INCHES (MM)

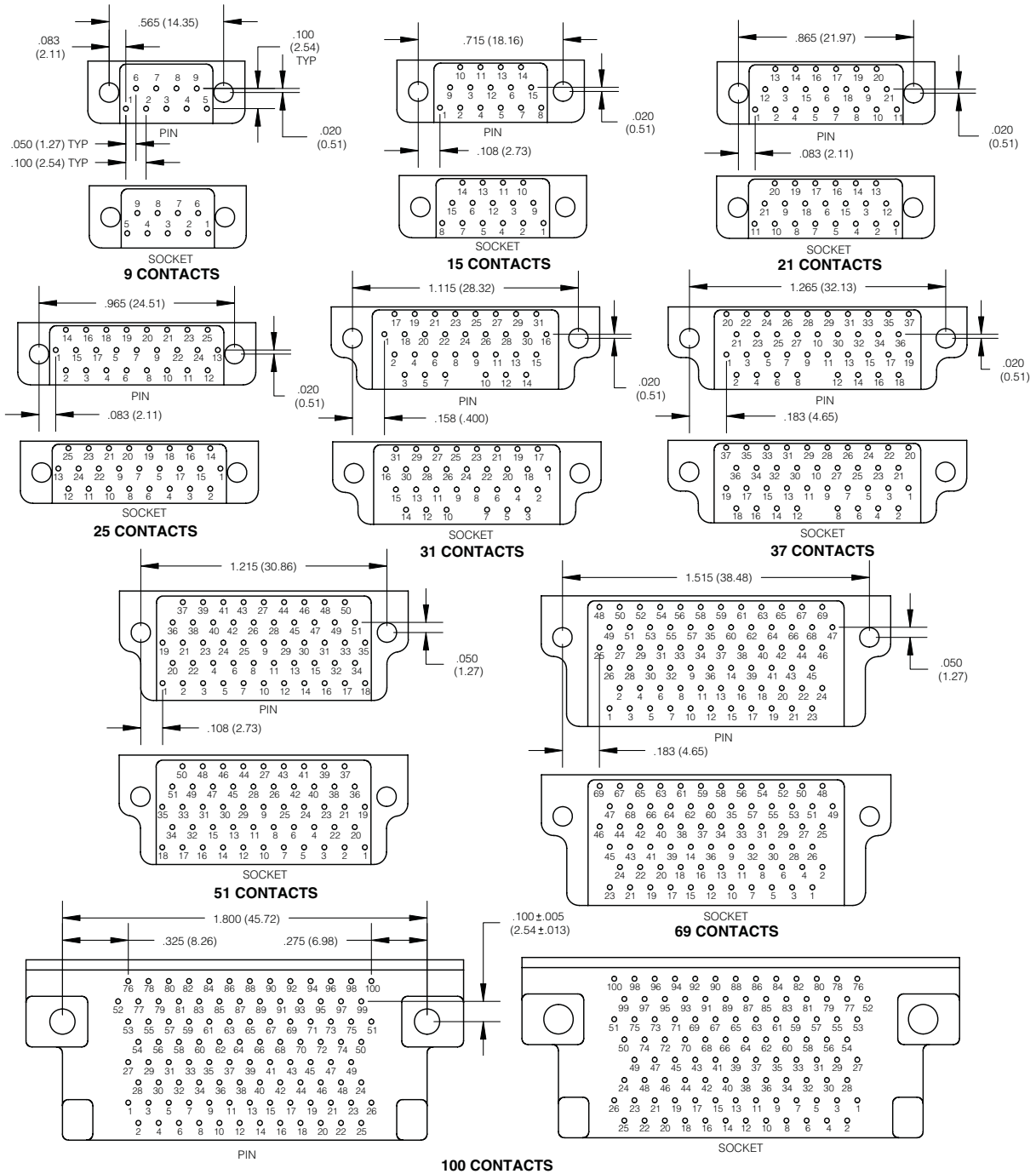
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Canada

# Series 110

## RIGHT ANGLE (90 DEG) NARROW PROFILE PC CONFIGURATIONS

.100 (2.54) x .100 (2.54) grid pattern, offset .050 (1.27)

Cavity identification numbers are for reference only and does not appear on the connector.



SOLDER CUP AND CRIMP TERMINATION

# Series 101

**Example:**  
101R09P-4A5FM2-20

**Description:** plastic shell size 9 plug, 26 AWG wire type "A", non-std wire length 20 inches with M2 low profile jackscrews.

**101 R XXX X - X X X X XX - XXX**

**Connector Series**  
101 = all plastic shell

**Insulator Material**  
R = Polyphenylene Sulfide (Ryton)

**Connector Size** (number of contacts)  
09, 15, 21, 25, 31, 37, 51

**Connector Type**  
P = plug (pin)  
S = receptacle (socket)

**Wire Size (AWG.)**  
1 = 32  
2 = 30  
3 = 28  
4 = 26 (M83513 standard) \*off shelf  
5 = 25 (solid wire only)  
6 = 24  
*Omit for solder cup contacts*

**Wire Type**  
**General Applications:**  
A = 7 strd, per NEMA-HP3 (MIL-W-16878/4)  
B = 7 strd, per NEMA-HP3 ((MIL-W-16878/6)  
C = 19 strd, per NEMA-HP3 (MIL-W-16878/4)  
D = 19 strd, per NEMA-HP3 (MIL-W-16878/6)  
**Military/Aerospace Applications:**  
E = per MIL-W-22759/11 (M83513 standard)  
F = per MIL-W-22759/33 (space grade)  
L = solid wire uninsulated  
*Omit for solder cup contacts*

**Non Std. Length** (Inches)  
Stranded Wire (no decimal values)  
e.g. **1** = 1 inches, **100** = 100 inches  
Solid Wire (0.109 < length < 1.00)  
e.g. **110** = .110 inches, **999** = .999 inches

**Hardware** (pre-installed by factory)  
B = standard mounting holes  
P = jackpost  
M2 = low profile jackscrew, allen head  
M3 = high profile jackscrew, allen head  
M5 = low profile jackscrew, slot head  
M6 = high profile jackscrew, slot head  
L = captive low profile jackscrew  
K = captive high profile jackscrew  
F = forward float mount  
R = reverse float mount

**Wire Length** ((inches +1.00/-0.00)  
A = 18.00  
B = 36.00  
C = 72.00  
D = 0.500 (solid wire only +0.20/-0.00)  
E = 1.00 (solid wire only +0.20/-0.00)  
F = Non std. length (add to end of part no.)  
*Omit for solder cup contacts*

**Wire Color / Finish**  
1 = all white (M83513 standard) \*off shelf  
2 = all yellow  
3 = solid wire uninsulated, tin plated  
4 = solid wire uninsulated, gold plated  
5 = color coded per mil-std-681, system 1  
6 = 1st 10 colors blk. thru wht. repeated  
(M83513 standard) \*off shelf  
*Omit for solder cup contacts*

INCHES (MM)

**Amphenol**  
Canada

M83513 ORDERING INFORMATION - SOLDER CUP AND CRIMP TERMINATION

### Solder Cup Termination:

M83513/XX - X

**Specification Sheet** ●  
 06 = plug (pin)  
 07 = receptacle (socket)

**Insert Arrangement** ●  
 A = 9  
 B = 15  
 C = 21  
 D = 25  
 E = 31  
 F = 37  
 G = 51

Sizes 69 & 100 not available per M83513

**Note:** Mounting and mating hardware to be ordered separately per M83513.

### Crimp Termination:

M83513/XX - X XX

**Specification Sheet** ●  
 08 = plug (pin)  
 09 = receptacle (socket)

**Insert Arrangement** ●  
 A = 9  
 B = 15  
 C = 21  
 D = 25  
 E = 31  
 F = 37  
 G = 51

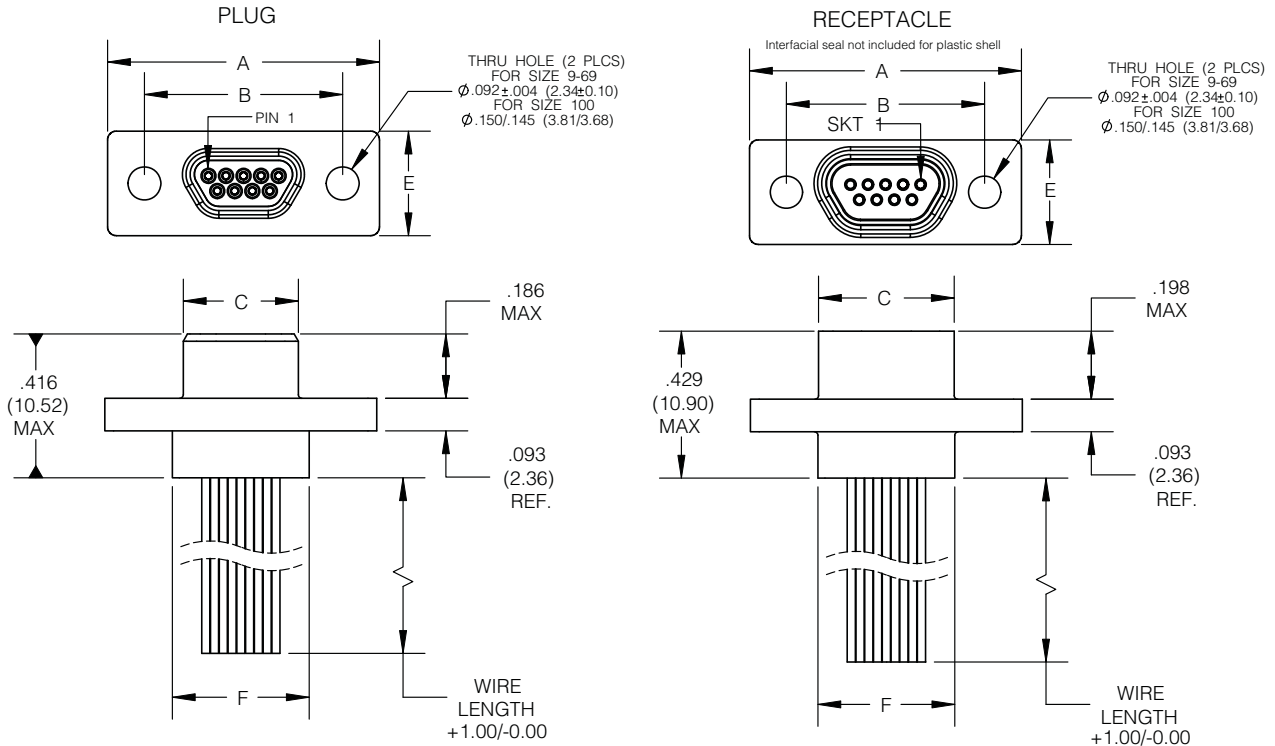
Sizes 69 & 100 not available per M83513

**Wire Type** (inches +1.00/-0.00)  
 01 = M22759/11-26-9, 18"  
 02 = M22759/11-26-9, 36"  
 03 = M22759/11-26-(\*), 18"  
 04 = M22759/11-26-(\*), 36"  
 05 = A-A-59551, type S, 25 AWG,  
 except shall be gold plated 10 micro-inches; 0.5"  
 06 = A-A-59551, type S, 25 AWG,  
 except shall be gold plated 10 micro-inches; 1.0"  
 07 = A-A-59551, type S, 25 AWG, tin plated 100 micro-inches; 0.5"  
 08 = A-A-59551, type S, 25 AWG, tin plated 100 micro-inches; 1.0"  
 09 = M22759/33-26-9, 18"  
 10 = M22759/33-26-9, 36"  
 11 = M22759/33-26-(\*), 18"  
 12 = M22759/33-26-(\*), 36"  
 13 = M22759/11-26-9, 72"  
 14 = M22759/11-26-(\*), 72"  
 15 = M22759/33-26-9, 72"  
 16 = M22759/33-26-(\*), 72"  
 17 = 04035-26A-9, 18"  
 18 = 04035-26A-9, 36"  
 19 = 04035-26A-9, 72"  
 20 = 04035-26A-(\*), 18"  
 21 = 04035-26A-(\*), 36"  
 22 = 04035-26A-(\*), 72"

# Series 101

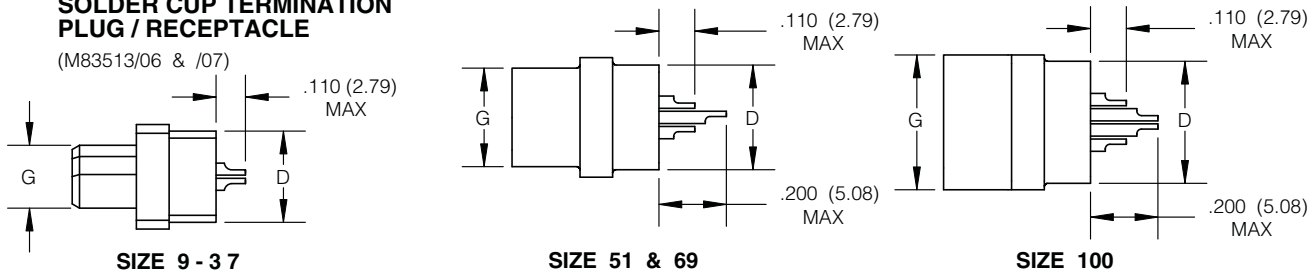
## WIRE TERMINATION

(M83513/08 & /09)



## SOLDER CUP TERMINATION PLUG / RECEPTACLE

(M83513/06 & /07)



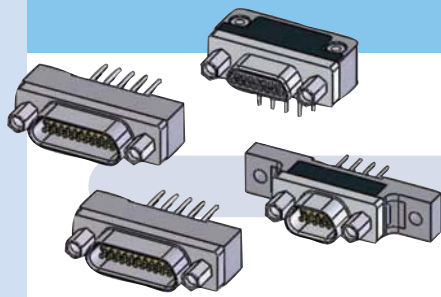
| SIZE | A<br>MAX      | B<br>$\pm .005$ (0.13) | C<br>MAX     |               | D<br>MAX    | E<br>MAX    | F<br>MAX      | G<br>MAX    |             |
|------|---------------|------------------------|--------------|---------------|-------------|-------------|---------------|-------------|-------------|
|      |               |                        | PLUG         | RCPT          |             |             |               | PLUG        | RCPT        |
| 09   | .788 (20.02)  | .565 (14.35)           | .292 (7.42)  | .380 (9.65)   | .173 (4.39) | .218 (5.54) | .408 (10.36)  | .134 (3.40) | .218 (5.54) |
| 15   | .938 (23.82)  | .715 (18.16)           | .442 (11.23) | .530 (13.46)  | .173 (4.39) | .218 (5.54) | .588 (14.17)  | .134 (3.40) | .218 (5.54) |
| 21   | 1.088 (27.64) | .865 (21.97)           | .592 (15.04) | .680 (17.27)  | .173 (4.39) | .218 (5.54) | .708 (17.98)  | .134 (3.40) | .218 (5.54) |
| 25   | 1.188 (30.18) | .965 (24.51)           | .692 (17.58) | .780 (19.81)  | .173 (4.39) | .218 (5.54) | .808 (20.56)  | .134 (3.40) | .218 (5.54) |
| 31   | 1.338 (33.98) | 1.115 (28.32)          | .842 (21.39) | .930 (23.62)  | .173 (4.39) | .218 (5.54) | .958 (24.33)  | .134 (3.40) | .218 (5.54) |
| 37   | 1.488 (37.80) | 1.265 (32.13)          | .992 (25.20) | 1.080 (27.43) | .173 (4.39) | .218 (5.54) | 1.108 (28.14) | .134 (3.40) | .218 (5.54) |
| 51   | 1.438 (36.52) | 1.215 (30.86)          | .942 (23.93) | 1.030 (26.16) | .220 (5.59) | .260 (6.60) | 1.058 (26.87) | .177 (4.49) | .260 (6.60) |

INCHES (MM)

**Amphenol**  
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# PLASTIC PCB CONNECTORS

## Series 101



Example:  
101R21P-CBRP1

Description: plastic shell size 21 plug, CBR termination, pcb tail lead length .109 inches with jackposts included.

**100 R XX X - BR X X X - XXX**

**Connector Series**  
101 = all plastic shell

**Insulator Material**  
R = Polyphenylene Sulfide (Ryton)

**Connector Size** (number of contacts)  
09, 15, 21, 25, 31, 37, 51

**Connector Type**  
P = plug (pin)  
S = receptacle (socket)

**Non Std. Wire Length (Inches)**  
(0.109 < length < 1.00)  
e.g. 125 = .125 inches

**Lead Length (inches)**  
1 = .109 ± .015  
2 = .140 ± .015  
3 = .172 ± .015  
4 = .250 ± .015  
F = non std. length (add to end of part no.)

**Threaded Insert** (pre-installed)  
T = threaded insert (PCB mounting option)  
Omit for no threaded insert

**Hardware for BS, BR, CBR:** (pre-installed)  
P = jackpost  
Omit for no jackpost

**Termination Type**  
BS = straight PCB per M83513/22 thru /27  
BR = 90° PCB per M83513/16 thru /21  
CBR = narrow 90° PCB per M83513/10 thru /15

## FEATURES

Available in sizes 9 thru 51, straight and right angle PCB termination.

Solid copper 24 AWG PCB leads, tin plated, and solder dipped.

Wide selection of hardware options.

Consult factory for other wire size termination.

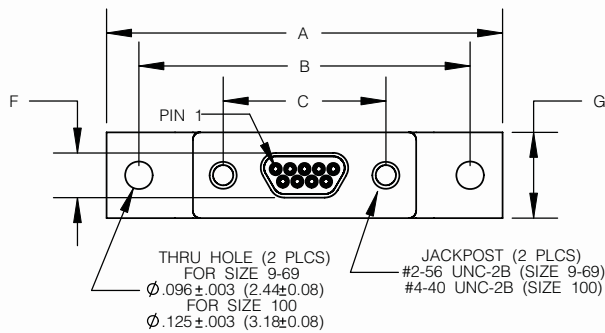
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INCHES (MM)

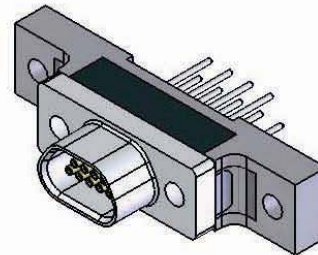
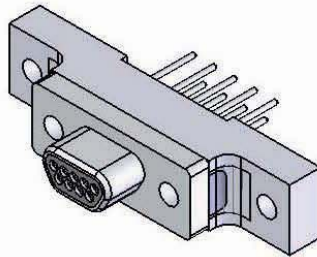
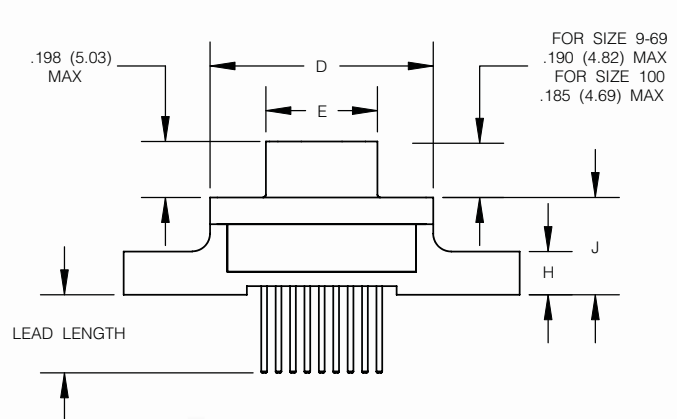
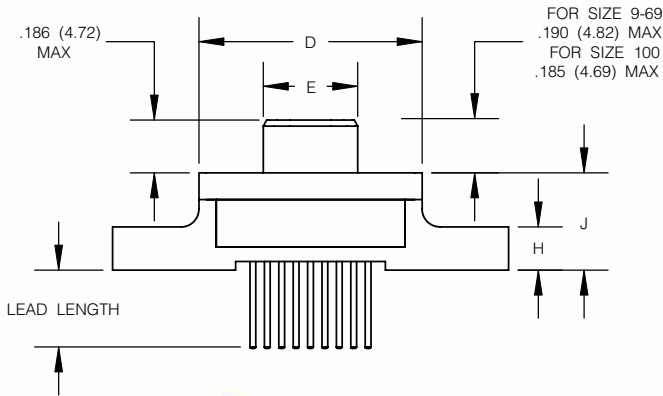
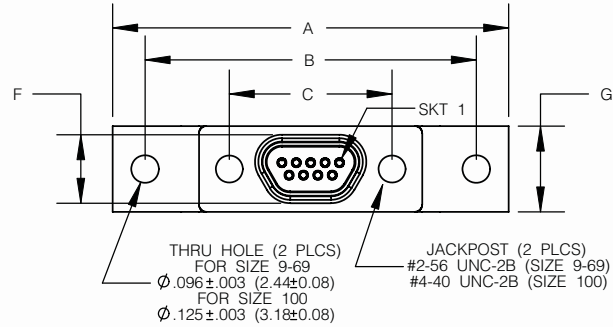
# Series 101

Refer to page 16 for straight PC configurations.

## PLUG



## RECEPTACLE



| SIZE | A<br>MAX      | B<br>$\pm .007$ (0.18) | C<br>$\pm .005$ (0.13) | D<br>MAX      | E<br>MAX     |               | F<br>MAX    |             |
|------|---------------|------------------------|------------------------|---------------|--------------|---------------|-------------|-------------|
|      |               |                        |                        |               | PLUG         | RCPT          | PLUG        | RCPT        |
| 09   | 1.390 (35.31) | 1.150 (29.21)          | .565 (14.35)           | .788 (20.02)  | .292 (7.42)  | .380 (9.65)   | .134 (3.40) | .218 (5.54) |
| 15   | 1.390 (35.31) | 1.150 (29.21)          | .715 (18.16)           | .938 (23.82)  | .442 (11.23) | .530 (13.46)  | .134 (3.40) | .218 (5.54) |
| 21   | 1.690 (43.93) | 1.450 (36.83)          | .865 (21.97)           | 1.088 (27.64) | .592 (15.04) | .680 (17.27)  | .134 (3.40) | .218 (5.54) |
| 25   | 1.740 (44.20) | 1.500 (38.10)          | .965 (24.51)           | 1.188 (30.18) | .692 (17.58) | .780 (19.81)  | .134 (3.40) | .218 (5.54) |
| 31   | 2.040 (51.82) | 1.800 (45.72)          | 1.115 (28.32)          | 1.338 (33.98) | .842 (21.39) | .930 (23.62)  | .134 (3.40) | .218 (5.54) |
| 37   | 2.340 (59.44) | 2.100 (53.34)          | 1.265 (32.13)          | 1.488 (37.80) | .992 (25.20) | 1.080 (27.43) | .134 (3.40) | .218 (5.54) |
| 51   | 2.270 (67.66) | 2.000 (50.80)          | 1.215 (30.86)          | 1.438 (36.53) | .942 (23.93) | 1.030 (26.16) | .177 (4.49) | .260 (6.60) |

INCHES (MM)

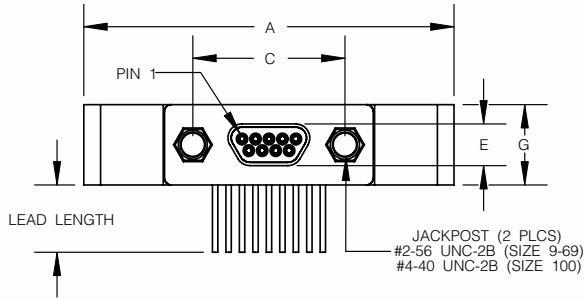
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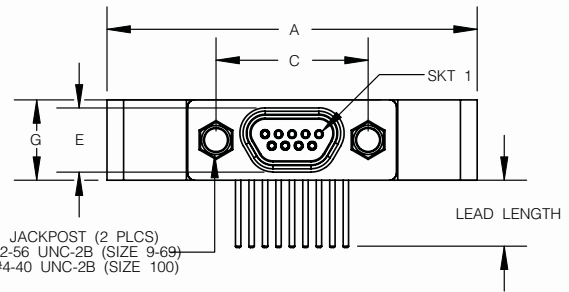
# Series 101

Refer to page 18 for right angle (90 DEG) PC configurations.

## PLUG



## RECEPTACLE



FOR SIZE 9-69  
.190 (4.82) MAX  
FOR SIZE 100  
.185 (4.70) MAX

FOR SIZE 9-69  
.125 ± .010  
(3.18 ± 0.25)  
FOR SIZE 100  
.225 ± .010  
(5.72 ± 0.25)

.100 (2.54) TYP.

.050 (1.27) TYP.  
.100 (2.54) TYP.

THRU HOLE (2 PLCS)  
FOR SIZE 9-69  
.096 ± .003 (2.44 ± 0.08)  
FOR SIZE 100  
.125 ± .003 (3.18 ± 0.08)

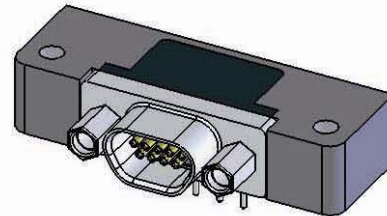
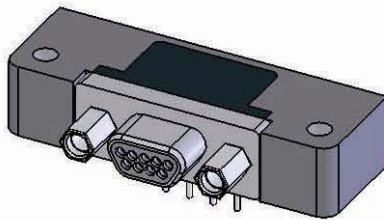
FOR SIZE 9-69  
.190 (4.82) MAX  
FOR SIZE 100  
.185 (4.70) MAX

FOR SIZE 9-69  
.125 ± .010  
(3.18 ± 0.25)  
FOR SIZE 100  
.225 ± .010  
(5.72 ± 0.25)

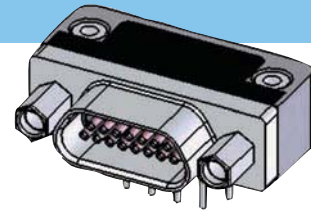
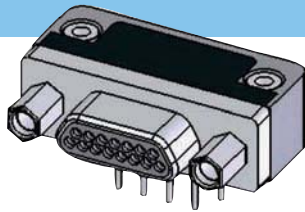
.100 (2.54) TYP.

.050 (1.27) TYP.  
.100 (2.54) TYP.

THRU HOLE (2 PLCS)  
FOR SIZE 9-69  
.096 ± .003 (2.44 ± 0.08)  
FOR SIZE 100  
.125 ± .003 (3.18 ± 0.08)

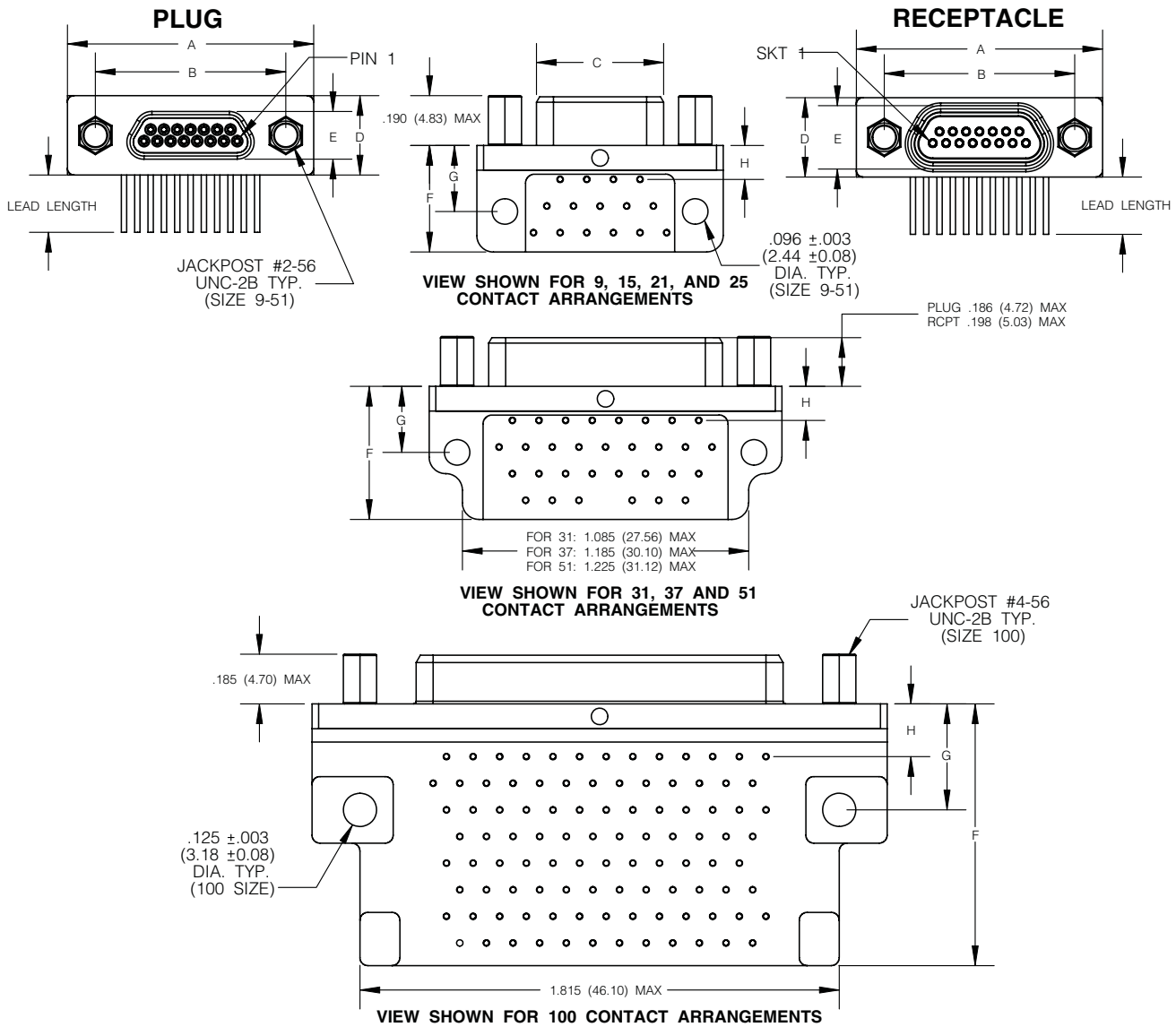


| SIZE | A<br>MAX      | B<br>±.007 (0.18) | C<br>±.005 (0.13) | D<br>MAX     |               | E<br>MAX    |             | F<br>MAX     | G<br>MAX    |
|------|---------------|-------------------|-------------------|--------------|---------------|-------------|-------------|--------------|-------------|
|      |               |                   |                   | PLUG         | RCPT          | PLUG        | RCPT        |              |             |
| 09   | 1.390 (35.31) | 1.150 (29.21)     | .565 (14.35)      | .292 (7.42)  | .380 (9.65)   | .134 (3.40) | .218 (5.54) | .455 (11.56) | .218 (5.54) |
| 15   | 1.540 (39.12) | 1.300 (33.02)     | .715 (18.16)      | .442 (11.23) | .530 (13.46)  | .134 (3.40) | .218 (5.54) | .455 (11.56) | .218 (5.54) |
| 21   | 1.690 (42.93) | 1.450 (36.83)     | .865 (21.97)      | .592 (15.04) | .680 (17.27)  | .134 (3.40) | .218 (5.54) | .455 (11.56) | .218 (5.54) |
| 25   | 1.790 (45.47) | 1.550 (39.37)     | .965 (24.51)      | .692 (17.58) | .780 (19.81)  | .134 (3.40) | .218 (5.54) | .455 (11.56) | .218 (5.54) |
| 31   | 2.040 (51.82) | 1.800 (45.72)     | 1.115 (28.32)     | .842 (21.39) | .930 (23.62)  | .134 (3.40) | .218 (5.54) | .455 (11.56) | .218 (5.54) |
| 37   | 2.340 (59.44) | 2.100 (53.34)     | 1.265 (32.13)     | .992 (25.20) | 1.080 (27.43) | .134 (3.40) | .218 (5.54) | .455 (11.56) | .218 (5.54) |
| 51   | 1.875 (47.63) | 1.600 (40.64)     | 1.215 (30.86)     | .942 (23.93) | 1.030 (26.16) | .177 (4.49) | .260 (6.60) | .565 (14.35) | .260 (6.60) |



### Series 101

Refer to page 20 for right angle (90 DEG) narrow profile PC configurations.



| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>MAX     |               | D<br>MAX    | E<br>MAX    |             | F<br>MAX     | G<br>±.010 (0.25) | H<br>±.010 (0.25) |
|------|---------------|-------------------|--------------|---------------|-------------|-------------|-------------|--------------|-------------------|-------------------|
|      |               |                   | PLUG         | RCPT          |             | PLUG        | RCPT        |              |                   |                   |
| 09   | .788 (20.02)  | .565 (14.35)      | .292 (7.42)  | .380 (9.65)   | .218 (5.54) | .134 (3.40) | .218 (5.54) | .420 (10.67) | .250 (6.35)       | .230 (5.81)       |
| 15   | .938 (23.82)  | .715 (18.16)      | .442 (11.23) | .530 (13.46)  | .218 (5.54) | .134 (3.40) | .218 (5.54) | .420 (10.67) | .250 (6.35)       | .130 (3.30)       |
| 21   | 1.088 (27.64) | .865 (21.97)      | .592 (15.04) | .680 (17.27)  | .218 (5.54) | .134 (3.40) | .218 (5.54) | .420 (10.67) | .250 (6.35)       | .130 (3.30)       |
| 25   | 1.188 (30.18) | .965 (24.51)      | .692 (17.58) | .780 (19.81)  | .218 (5.54) | .134 (3.40) | .218 (5.54) | .420 (10.67) | .250 (6.35)       | .130 (3.30)       |
| 31   | 1.338 (33.98) | 1.115 (28.32)     | .842 (21.39) | .930 (23.62)  | .218 (5.54) | .134 (3.40) | .218 (5.54) | .520 (13.21) | .250 (6.35)       | .130 (3.30)       |
| 37   | 1.488 (37.80) | 1.265 (32.13)     | .992 (25.20) | 1.080 (27.43) | .218 (5.54) | .134 (3.40) | .218 (5.54) | .520 (13.21) | .250 (6.35)       | .130 (3.30)       |
| 51   | 1.438 (36.52) | 1.215 (30.86)     | .942 (23.93) | 1.030 (26.16) | .260 (6.60) | .177 (4.49) | .260 (6.60) | .650 (16.5)  | .300 (7.62)       | .150 (3.81)       |

INCHES (MM)



## Series MDCE

MDCE-XXX - X

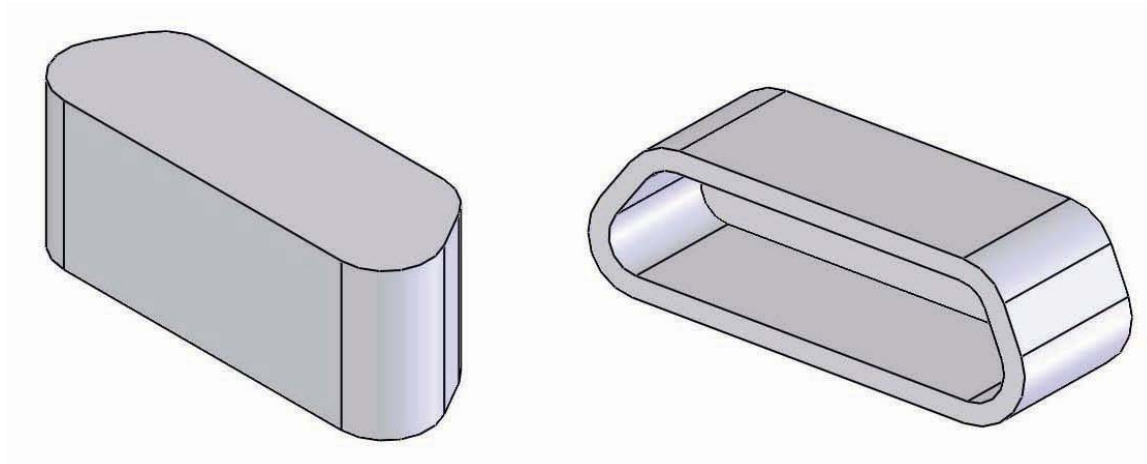
Connector Size ●  
(number of contacts)

- 09
- 15
- 21
- 25
- 31
- 37
- 51
- 69
- 100

Connector Type ●

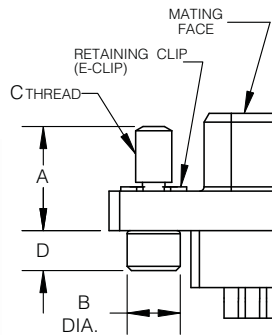
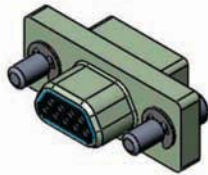
- P = plug (pin)
- S = receptacle (socket)

| P/N       |
|-----------|
| MDCE-09P  |
| MDCE-15P  |
| MDCE-21P  |
| MDCE-25P  |
| MDCE-31P  |
| MDCE-37P  |
| MDCE-51P  |
| MDCE-69P  |
| MDCE-100P |
| MDCE-09S  |
| MDCE-15S  |
| MDCE-21S  |
| MDCE-25S  |
| MDCE-31S  |
| MDCE-37S  |
| MDCE-51S  |
| MDCE-69S  |
| MDCE-100S |



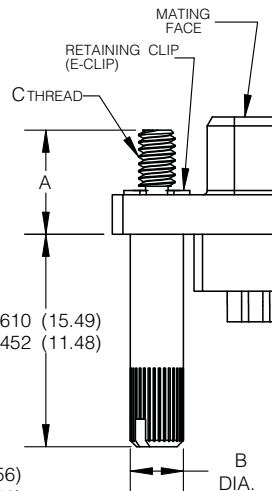
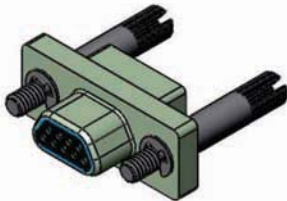
MATERIAL: Statically dissipative  
Colour: pink / black

**LOW PROFILE JACKSCREW ASSEMBLY**



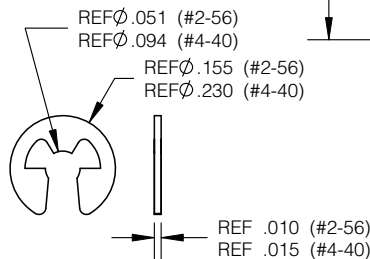
| SHELL SIZE      | 9-69                  |                      | 100                   |                      |
|-----------------|-----------------------|----------------------|-----------------------|----------------------|
| AMPHENOL P/N    | HM05-05               | HM05-02              | HM05-15               | HM05-12              |
| P/N CODE        | M5                    | M2                   | M5                    | M2                   |
| MIL-SPEC P/N    | M83513/05-05 (SLOT)   | M83513/05-02 (ALLEN) | M83513/05-15 (SLOT)   | M83513/05-12 (ALLEN) |
| Dim. A          | .258/.235 (6.55/5.97) |                      | .287±.005 (7.29±0.13) |                      |
| Dim. B          | .125 (3.18)           |                      | .187 (4.75)           |                      |
| Dim. C (THREAD) | #2-56 UNC-2A          |                      | #4-40 UNC-2A          |                      |
| Dim. D          | .103/.070 (2.62/1.78) |                      | .098 (2.49)           |                      |
| Dim. E (HEX)    | N/A                   |                      |                       |                      |

**HIGH PROFILE JACKSCREW ASSEMBLY**

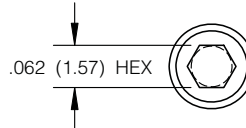


| SHELL SIZE      | 9-69                  |                      | 100                   |                      |
|-----------------|-----------------------|----------------------|-----------------------|----------------------|
| AMPHENOL P/N    | HM05-06               | HM05-03              | HM05-16               | HM05-13              |
| P/N CODE        | M6                    | M3                   | M6                    | M3                   |
| MIL-SPEC P/N    | M83513/05-06 (SLOT)   | M83513/05-03 (ALLEN) | M83513/05-16 (SLOT)   | M83513/05-13 (ALLEN) |
| Dim. A          | .258/.235 (6.55/5.97) |                      | .287±.005 (7.29±0.13) |                      |
| Dim. B          | .125 (3.18)           |                      | .187 (4.75)           |                      |
| Dim. C (THREAD) | #2-56 UNC-2A          |                      | #4-40 UNC-2A          |                      |
| Dim. D          | N/A                   |                      |                       |                      |
| Dim. E (HEX)    | N/A                   |                      |                       |                      |

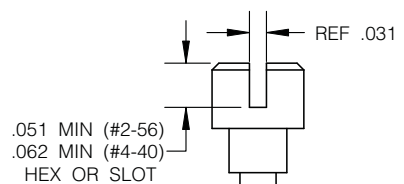
**RETAINING CLIP DETAIL**



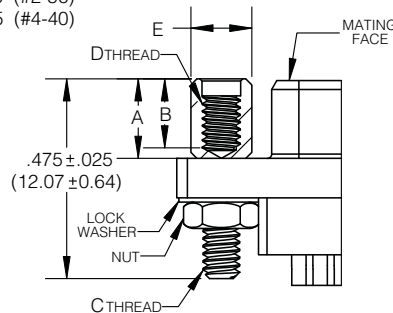
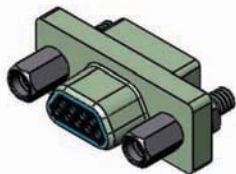
**ALLEN HEAD DETAIL**



**SLOT HEAD DETAIL**

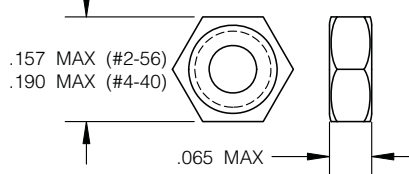


**JACKPOST ASSEMBLY**

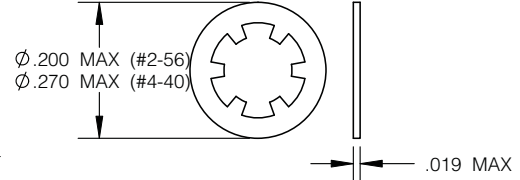


| SHELL SIZE      | 9-69                  | 100                   |
|-----------------|-----------------------|-----------------------|
| AMPHENOL P/N    | HM05-07               | HM05-17               |
| P/N CODE        | P                     |                       |
| MIL-SPEC P/N    | M83513/05-07          | M83513/05-17          |
| Dim. A          | .190/.185 (4.83/4.70) | .185/.180 (4.70/4.58) |
| Dim. B          | .155 (3.94)           | .170 (4.32)           |
| Dim. C (THREAD) | #2-56 UNC-2A          | #4-40 UNC-2A          |
| Dim. D          | #2-56 UNC-2B          | #4-40 UNC-2B          |
| Dim. E (HEX)    | .125 (3.18)           | .187 (4.75)           |

**NUT DETAIL**



**LOCKWASHER DETAIL**

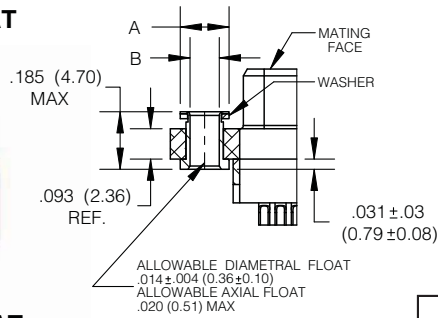
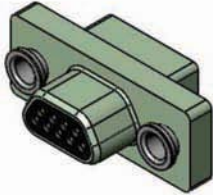


INCHES (MM)

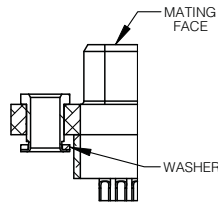
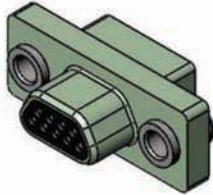


- \* Custom hardware pre-installed by the factory
- \* Captive hardware provides secure mounting
- \* For special design hardware, consult Amphenol sales for more options

## FORWARD FLOAT

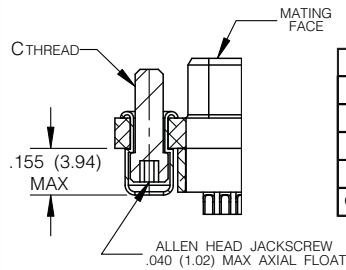
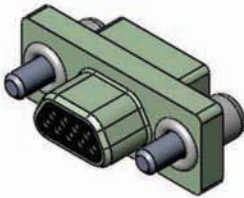


## REVERSE FLOAT (SAME DIMENSIONS AS FORWARD FLOAT)



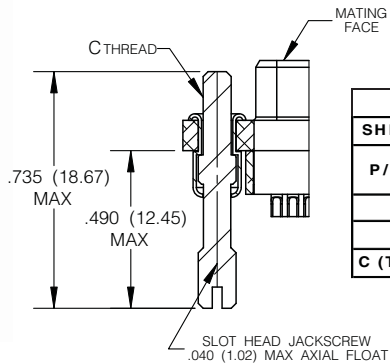
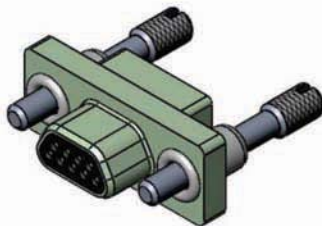
| FLOAT MOUNT       |  |                       |
|-------------------|--|-----------------------|
| <b>SHELL SIZE</b> | 9-69                                   | 100                   |
| <b>P/N CODE</b>   | F = FORWARD FLOAT<br>R = REVERSE FLOAT |                       |
| <b>A</b>          | .150±.003 (3.81±.076)                  | .174±.005 (4.40±.13)  |
| <b>B</b>          | .090±.0015 (2.99±.0038)                | .116±.002 (2.95±.051) |
| <b>C (THREAD)</b> | N/A                                    |                       |

## LOW PROFILE CAPTIVE JACKSCREW

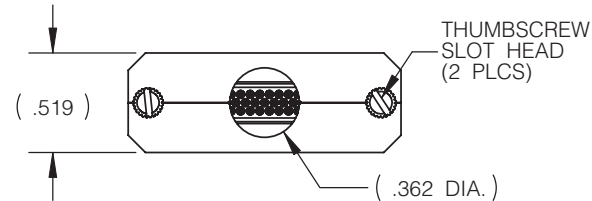
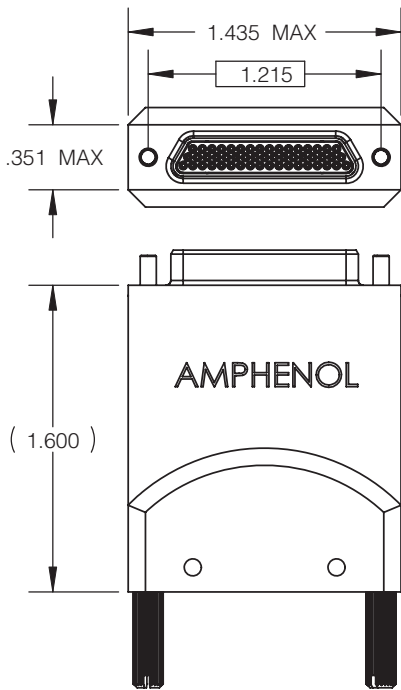


| LOW PROFILE CAPTIVE |              |              |
|---------------------|--------------|--------------|
| <b>SHELL SIZE</b>   | 9-69         | 100          |
| <b>P/N CODE</b>     | L            |              |
| <b>A</b>            | N/A          |              |
| <b>B</b>            | N/A          |              |
| <b>C (THREAD)</b>   | #2-56 UNC-2A | #4-40 UNC-2A |

## HIGH PROFILE CAPTIVE JACKSCREW

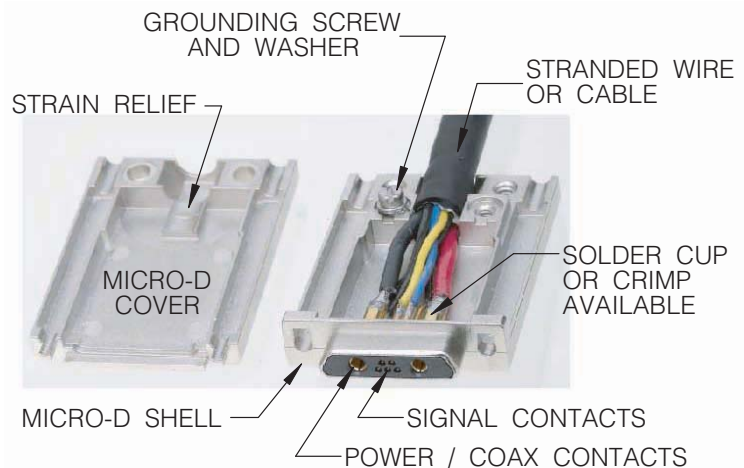
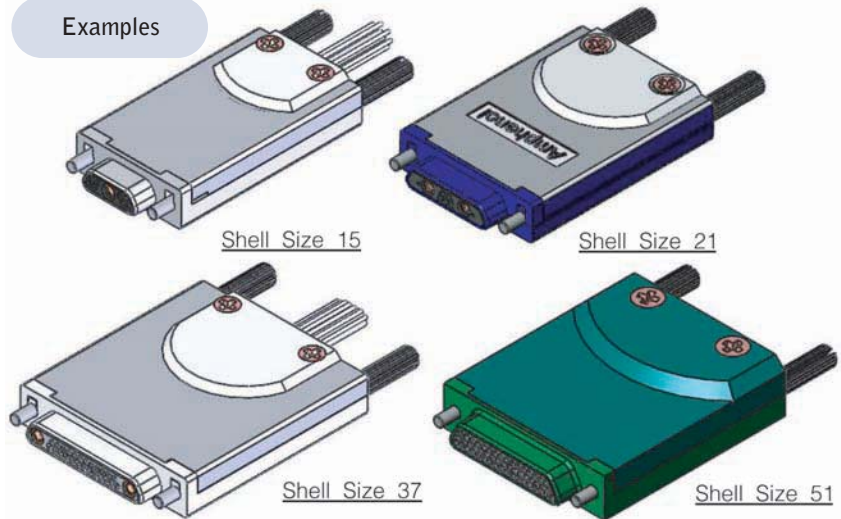


| HIGH PROFILE CAPTIVE |              |              |
|----------------------|--------------|--------------|
| <b>SHELL SIZE</b>    | 9-69         | 100          |
| <b>P/N CODE</b>      | K            |              |
| <b>A</b>             | N/A          |              |
| <b>B</b>             | N/A          |              |
| <b>C (THREAD)</b>    | #2-56 UNC-2A | #4-40 UNC-2A |



SHELL SIZE 51 SHOWN  
(CONSULT FACTORY FOR OTHER SIZES  
OR INSERT PATTERNS)

### Examples



## FEATURES

- Easy assembly
- All-in-one Micro-D connector and EMI backshell
- Eliminate the use of retaining clip (E-clip) hardware
- Built in strain relief
- Grounding screw and washer included
- Solder cup and wire termination available
- Sizes 9 thru 100 available
- Standard MIL-DTL-83513 insert pattern or custom insert pattern available
- Signal / Power / Coaxial contacts available
- Consult factory for angled cable exit or specific cable diameter requirement

## MATERIAL & FINISH

Material: Aluminum alloy (consult factory for zinc alloy)

Finish: Electroless nickel

Hardware: Stainless steel

## PERFORMANCE INFORMATION

- D.W.V. 600 VAC (at sea level)
- Insulation resistance: 5000 megaohms min.
- Temperature rating: -55 deg C to +125 deg C (+85 deg C for zinc alloy)
- Designed to meet MIL-DTL-83513 performance standards

INCHES (MM)

**Amphenol**  
Canada

## Series MBS

**Example:**  
MBS-09N-EA00-M5

**Description:** metal backshell size 9, nickel finish,  
cable exit "A" straight with "M5" hardware

**MBS** - **XXX** **X** - **E** **X** **XX** **XX**

**MBS** = EMI Backshell  
(aluminum alloy material)

**Connector Size** (number of contacts)  
09, 15, 21, 25, 31, 37, 51, 100

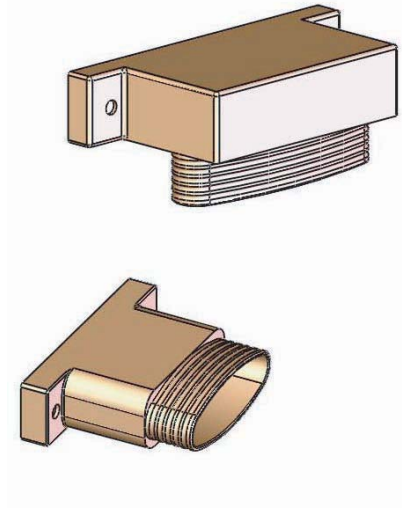
**Shell Finish**  
**C** = cadmium  
**N** = electroless nickel  
**G** = gold  
**Z** = customer specified plating  
(e.g. olive drab camium)

**Exit Shape**  
**E** = elliptical

**Cable Exit Size**  
**A, B, C, D, E, F, G, H**  
See page 39 for straight exit  
See page 40 for right angle exit

**Exit Angle**  
**00** = straight  
**90** = right angle

**Hardware**  
**M5** = low profile jackscrew (slot head)  
**M6** = high profile jackscrew (slot head)  
**P** = jackpost  
Omit for no hardware



## FEATURES

The Amphenol Micro-D EMI backshell series MBS is designed for use with M83513 connectors.

It is a reliable means of providing EMI and strain relief for harnessed connectors.

Available for sizes 9 thru 100.

Available in straight or 90 deg exit angle (consult factory for 45 deg or alternate exit angle).

Backshells are machined from Aluminum alloy and are offered with various plating options.

## PERFORMANCE INFORMATION

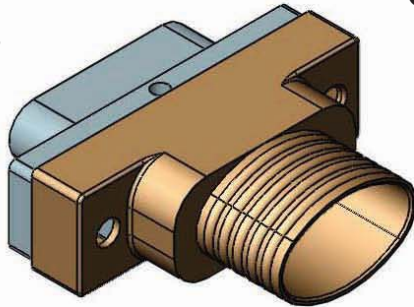
Magnetic permeability (MIL-I-17214): less than 2 mu

Shielding efficiency: to 1 GHz, 60 db to > 100 db

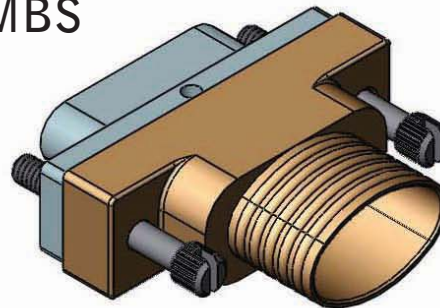
Vibration (per MIL-STD-1344 Method 2004, condition C): no damage or discontinuity between shell and shield

Series MBS

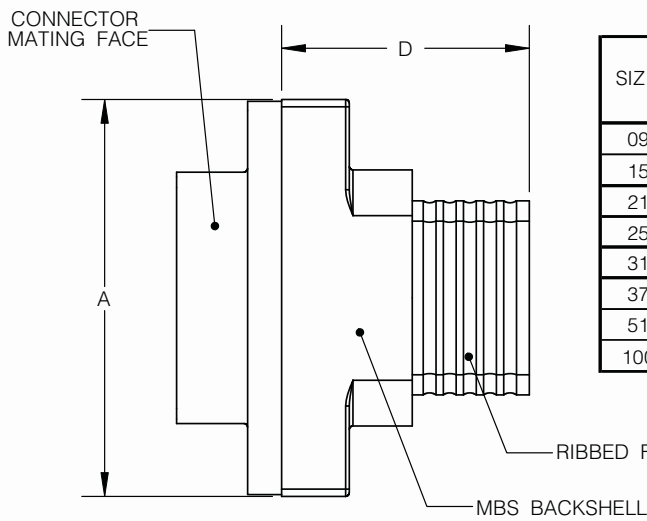
Connector shown for reference (order separately)



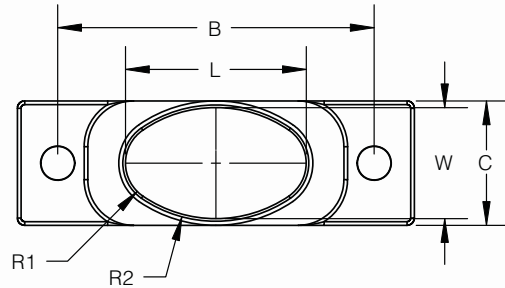
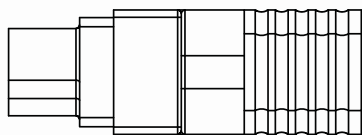
NO HARDWARE SHOWN



WITH HARDWARE SHOWN



| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>±.005 (0.13) | D<br>±.020 (0.51) |
|------|---------------|-------------------|-------------------|-------------------|
| 09   | .785 (19.94)  | .565 (14.35)      | .340 (8.64)       | .762 (19.35)      |
| 15   | .935 (23.75)  | .715 (18.16)      | .340 (8.64)       | .812 (20.62)      |
| 21   | 1.085 (27.56) | .865 (21.97)      | .340 (8.64)       | .862 (21.89)      |
| 25   | 1.185 (30.10) | .965 (24.51)      | .340 (8.64)       | .912 (23.16)      |
| 31   | 1.335 (33.91) | 1.115 (28.32)     | .340 (8.64)       | .952 (24.18)      |
| 37   | 1.485 (37.72) | 1.265 (32.13)     | .340 (8.64)       | .992 (25.20)      |
| 51   | 1.435 (36.45) | 1.215 (30.86)     | .400 (10.16)      | 1.072 (27.32)     |
| 100  | 2.175 (55.25) | 1.800 (45.72)     | .450 (11.43)      | 1.137 (28.88)     |



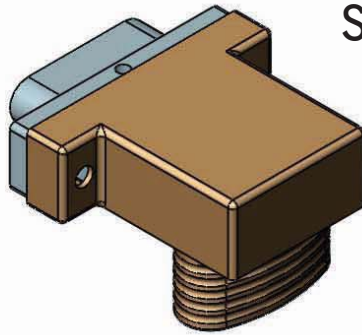
| SIZE | W<br>±.010 (0.25) | L<br>±.010 (0.25) | R1<br>±.010 (0.25) | R2<br>±.020 (0.51) | AVAILABLE ON SIZE |
|------|-------------------|-------------------|--------------------|--------------------|-------------------|
| A    | .290 (7.37)       | .344 (8.74)       | .109 (2.77)        | .182 (4.62)        | 09 THRU 100       |
| B    | .290 (7.37)       | .494 (12.55)      | .109 (2.77)        | .353 (8.97)        | 15 THRU 100       |
| C    | .290 (7.37)       | .644 (16.36)      | .109 (2.77)        | .757 (19.23)       | 21 THRU 100       |
| D    | .304 (7.72)       | .744 (18.90)      | .109 (2.77)        | .940 (23.88)       | 25 THRU 100       |
| E    | .304 (7.72)       | .894 (22.71)      | .109 (2.77)        | 1.488 (37.80)      | 31 THRU 100       |
| F    | .304 (7.72)       | .994 (25.25)      | .109 (2.77)        | 1.893 (48.08)      | 37 THRU 100       |
| G    | .304 (7.72)       | 1.044 (26.52)     | .109 (2.77)        | 2.128 (54.05)      | 37 AND 100        |
| H    | .384 (9.75)       | 1.524 (38.71)     | .125 (3.18)        | 3.187 (80.95)      | 100 ONLY          |

INCHES (MM)

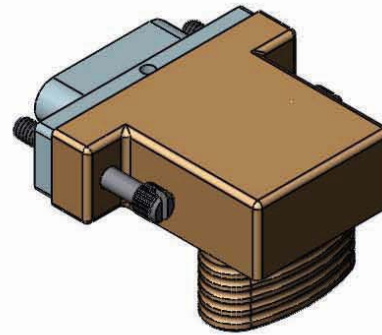


## Series MBS

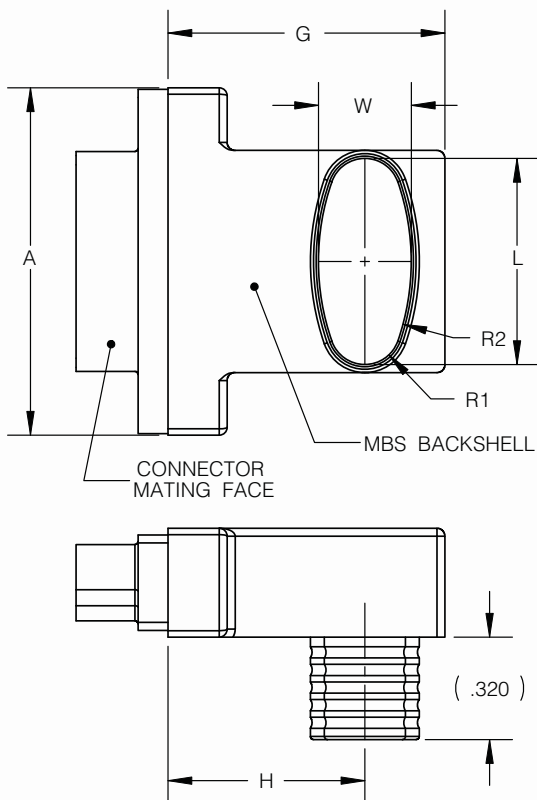
Connector shown for reference (order separately)



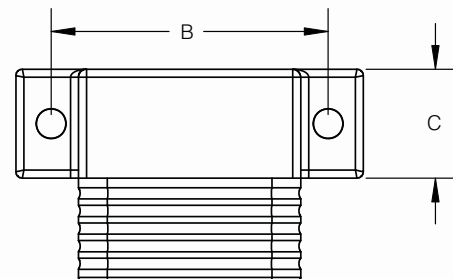
NO HARDWARE SHOWN



WITH HARDWARE SHOWN



| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>±.005 (0.13) | G<br>MAX     | H<br>±.010 (0.25) |
|------|---------------|-------------------|-------------------|--------------|-------------------|
| 09   | .785 (19.94)  | .565 (14.35)      | .340 (8.64)       | .865 (21.97) | .615 (15.62)      |
| 15   | .935 (23.75)  | .715 (18.16)      | .340 (8.64)       | .865 (21.97) | .615 (15.62)      |
| 21   | 1.085 (27.56) | .865 (21.97)      | .340 (8.64)       | .865 (21.97) | .615 (15.62)      |
| 25   | 1.185 (30.10) | .965 (24.51)      | .340 (8.64)       | .885 (22.48) | .625 (15.88)      |
| 31   | 1.335 (33.91) | 1.115 (28.32)     | .340 (8.64)       | .885 (22.48) | .625 (15.88)      |
| 37   | 1.485 (37.72) | 1.265 (32.13)     | .340 (8.64)       | .885 (22.48) | .625 (15.88)      |
| 51   | 1.435 (36.45) | 1.215 (30.86)     | .400 (10.16)      | .925 (23.50) | .645 (16.38)      |
| 100  | 2.175 (55.25) | 1.800 (45.72)     | .450 (11.43)      | .980 (24.89) | .657 (16.69)      |



| SIZE | W<br>±.010 (0.25) | L<br>±.010 (0.25) | R1<br>±.010 (0.25) | R2<br>±.020 (0.51) | AVAILABLE ON SIZE |
|------|-------------------|-------------------|--------------------|--------------------|-------------------|
| A    | .290 (7.37)       | .344 (8.74)       | .109 (2.77)        | .182 (4.62)        | 09 THRU 100       |
| B    | .290 (7.37)       | .494 (12.55)      | .109 (2.77)        | .353 (8.97)        | 15 THRU 100       |
| C    | .290 (7.37)       | .644 (16.36)      | .109 (2.77)        | .757 (19.23)       | 21 THRU 100       |
| D    | .304 (7.72)       | .744 (18.90)      | .109 (2.77)        | .940 (23.88)       | 25 THRU 100       |
| E    | .304 (7.72)       | .894 (22.71)      | .109 (2.77)        | 1.488 (37.80)      | 31 THRU 100       |
| F    | .304 (7.72)       | .994 (25.25)      | .109 (2.77)        | 1.893 (48.08)      | 37 THRU 100       |
| G    | .304 (7.72)       | 1.044 (26.52)     | .109 (2.77)        | 2.128 (54.05)      | 37 AND 100        |
| H    | .384 (9.75)       | 1.524 (38.71)     | .125 (3.18)        | 3.187 (80.95)      | 100 ONLY          |

## Series 100, 101, 102 &amp; 104

Example:  
100RN09P/S-B

Description: metal shell size 9 plug and receptacle, nickel finish, with standard mounting holes.

**100** **R** **X** **XXX** - **P/S** - **X**

**Connector Series**

- 100 = metal shell per M83513
- 101 = all plastic per M83513/06 thru /09
- 102 = all plastic (dimensionally identical to metal shell per M83513)
- 104 = stainless steel per M83513

**Insulator Material**

R = Polyphenylene Sulfide (Ryton)

**Shell Finish** (omit for series 101, 102 & 104)

- A = anodize
- C = cadmium
- G = gold
- I = irridite/alodine
- N = electroless nickel
- T = tin

**Connector Size** (number of contacts)

09, 15, 21, 25, 31, 37, 51, 69, 100

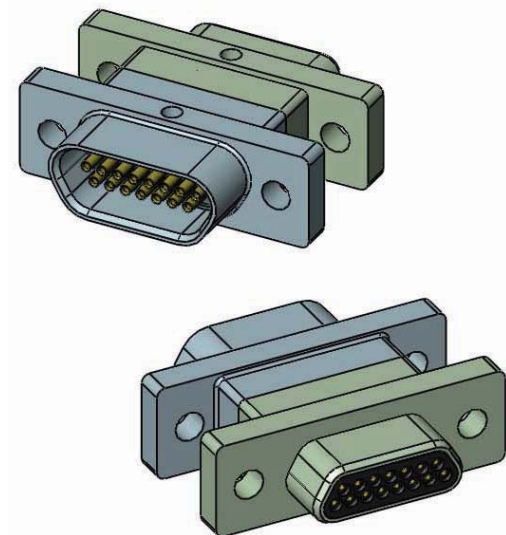
All sizes I.A.W. M83513 except size 69 (non-military)

**Connector Type**

P/S = connector saver (plug and receptacle)

**Hardware** (pre-installed by factory)

- B = standard mounting holes
- F = standard float mount
- R = reverse float mount
- P = jackpost

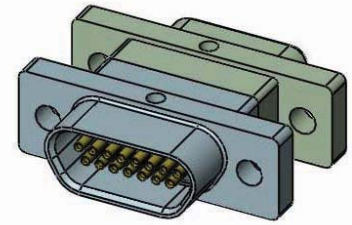
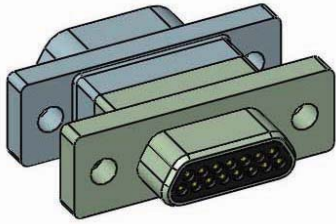


## FEATURES

- Space reduction (2-in-1 connector)
- Opposite mating genders
- No termination required; ready for use

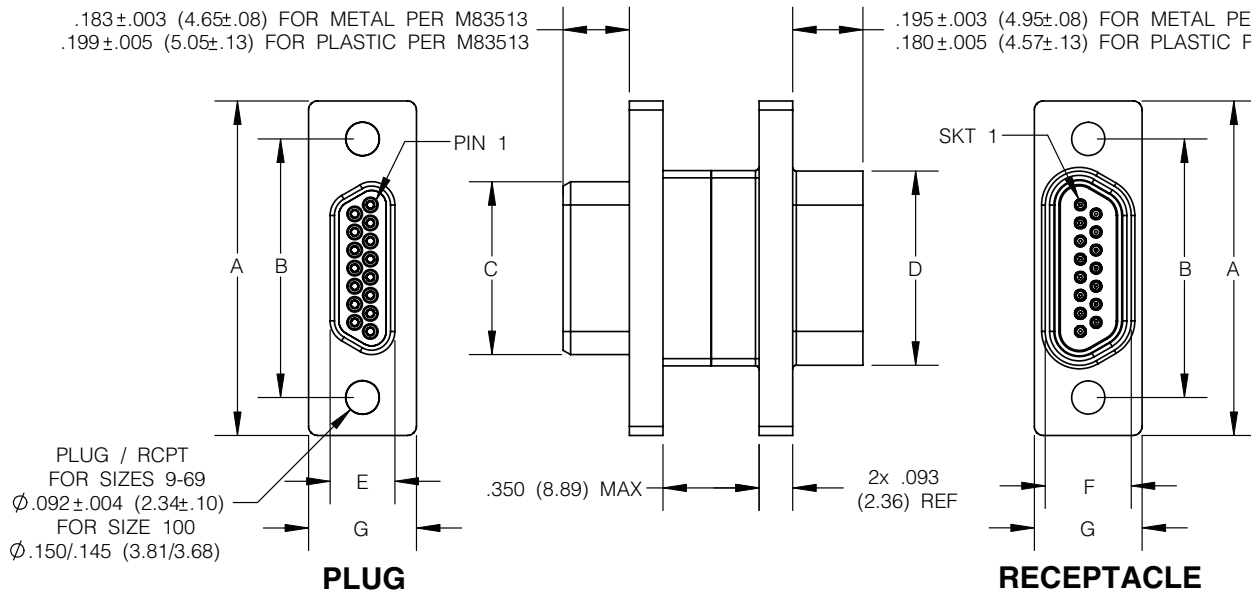
INCHES (MM)

## Series 100, 101, 102 & 104



.183±.003 (4.65±.08) FOR METAL PER M83513  
 .199±.005 (5.05±.13) FOR PLASTIC PER M83513

.195±.003 (4.95±.08) FOR METAL PER M83513  
 .180±.005 (4.57±.13) FOR PLASTIC PER M83513



**PLUG**

**RECEPTACLE**

*(Face seal included for 100 series only)*

### 100, 102 & 104 SERIES

| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>MAX      | D<br>MAX      | E<br>MAX    | F<br>MAX     | G<br>MAX     |
|------|---------------|-------------------|---------------|---------------|-------------|--------------|--------------|
| 09   | .785 (19.94)  | .565 (14.35)      | .334 (8.48)   | .402 (10.21)  | .185 (4.70) | .253 (6.43)  | .308 (7.82)  |
| 15   | .935 (23.75)  | .715 (18.16)      | .484 (12.29)  | .552 (13.97)  | .185 (4.70) | .253 (6.43)  | .308 (7.82)  |
| 21   | 1.085 (27.56) | .865 (21.97)      | .634 (16.10)  | .702 (17.83)  | .185 (4.70) | .253 (6.43)  | .308 (7.82)  |
| 25   | 1.185 (30.10) | .965 (24.51)      | .734 (18.64)  | .802 (20.37)  | .185 (4.70) | .253 (6.43)  | .308 (7.82)  |
| 31   | 1.335 (33.91) | 1.115 (28.32)     | .884 (22.45)  | .952 (24.18)  | .185 (4.70) | .253 (6.43)  | .308 (7.82)  |
| 37   | 1.485 (37.72) | 1.265 (32.13)     | 1.034 (26.26) | 1.102 (27.99) | .185 (4.70) | .253 (6.43)  | .308 (7.82)  |
| 51   | 1.435 (36.45) | 1.215 (30.86)     | .984 (24.99)  | 1.052 (26.72) | .228 (5.79) | .296 (7.52)  | .351 (8.92)  |
| 69   | 1.735 (44.07) | 1.515 (38.48)     | 1.289 (32.74) | 1.357 (34.47) | .228 (5.79) | .296 (7.52)  | .351 (8.92)  |
| 100  | 2.160 (54.86) | 1.800 (45.72)     | 1.384 (35.13) | 1.508 (38.10) | .271 (6.88) | .394 (10.01) | .394 (10.01) |

### 101 SERIES ONLY (Sizes 69 & 100 are not applicable)

| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>MAX     | D<br>MAX      | E<br>MAX    | F<br>MAX    | G<br>MAX    |
|------|---------------|-------------------|--------------|---------------|-------------|-------------|-------------|
| 09   | .788 (20.02)  | .565 (14.35)      | .292 (7.42)  | .380 (9.65)   | .134 (3.40) | .218 (5.54) | .218 (5.54) |
| 15   | .938 (23.82)  | .715 (18.16)      | .442 (11.23) | .530 (13.46)  | .134 (3.40) | .218 (5.54) | .218 (5.54) |
| 21   | 1.088 (27.64) | .865 (21.97)      | .592 (15.04) | .680 (17.27)  | .134 (3.40) | .218 (5.54) | .218 (5.54) |
| 25   | 1.188 (30.18) | .965 (24.51)      | .692 (17.58) | .780 (19.81)  | .134 (3.40) | .218 (5.54) | .218 (5.54) |
| 31   | 1.338 (33.98) | 1.115 (28.32)     | .842 (21.39) | .930 (23.62)  | .134 (3.40) | .218 (5.54) | .218 (5.54) |
| 37   | 1.488 (37.80) | 1.265 (32.13)     | .992 (25.20) | 1.080 (27.43) | .134 (3.40) | .218 (5.54) | .218 (5.54) |
| 51   | 1.438 (36.52) | 1.215 (30.86)     | .942 (23.93) | 1.030 (26.16) | .177 (4.49) | .260 (6.60) | .260 (6.60) |

## Series 105

**Example:** 105R21P-4A5A1 **Description:** Ryton material strip connector, size 21 plug, wire termination, 26 AWG, 7-strd per NEMA-HP3, colour coded per MIL-STD-681 (sys 1), 18" long with one guide pin on one end of the connector.

**105 R XXX X - X X X - X X XXX**

**Connector Series**  
105 = Strip Connector

**Insulator Material**  
R = Polyphenylene Sulfide (Ryton)

**Number of Contacts**  
1 to 30 (no guide pins)  
1 to 29 (guide pin on one end)  
1 to 28 (guide pin on both ends)

**Connector Type**  
P = plug (pin)  
S = Receptacle (socket)

**Wire Size (Awg.)**  
1 = 32  
2 = 30  
3 = 28  
4 = 26 (stranded)  
5 = 25 (solid uninsulated)  
6 = 24  
*Omit for solder cup contacts*

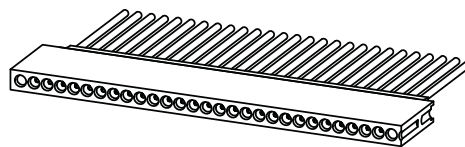
**Wire Type**  
**Naval Applications:**  
A = 7 strd, per NEMA-HP3 (MIL-W-16878/4)  
B = 7 strd, per NEMA-HP3 (MIL-W-16878/6)  
C = 19 strd, per NEMA-HP3 (MIL-W-16878/4)  
D = 19 strd, per NEMA-HP3 (MIL-W-16878/6)  
**Military/Aerospace Applications:**  
E = per MIL-W-22759/11 (M83513 standard)  
F = per MIL-W-22759/33 (space grade)  
L = solid wire uninsulated  
*Omit for solder cup contacts*

**Non Std. Length (Inches)**  
Stranded Wire (no decimal values)  
e.g. 1 = 1 inches, 100 = 100 inches  
Solid Wire (0.109 < length < 1.00)  
e.g. 110 = .110 inches, 999 = .999 inches

**Guidepin**  
Guidepin for receptacle; guidepin hole for plug  
1 = one end  
2 = both end  
*Omit for no guidepins*

**Wire Length (inches +1.00/-0.00)**  
A = 18.00  
B = 36.00  
C = 72.00  
D = 0.500 (solid wire only +0.20/-0.00)  
E = 1.00 (solid wire only +0.20/-0.00)  
F = non std. length (add to end of part no.)  
*Omit for solder cup contacts*

**Wire Colour / Finish**  
1 = all white (M83513 standard) \*off shelf  
2 = all yellow  
3 = solid wire uninsulated, tin plated  
4 = solid wire uninsulated, gold plated  
5 = colour coded per mil-std-681, system 1  
6 = 1st 10 colours blk. thru wht. repeated (M83513 standard) \*off shelf  
*Omit for solder cup contacts*

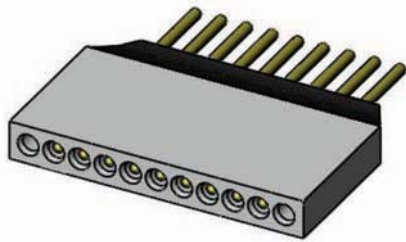


## FEATURES

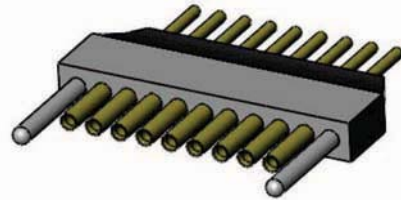
- One piece insulator: Polyphenylene sulfide (Ryton)
- Contacts (1-30 positions): Copper alloy, gold plate
- Guidepin (optional, one or both ends): 300 series stainless steel
- Wide selection of wire sizes, types, and colour finish.
- Coupling feature: Friction
- Contact spacing: .050" (1.27) centres

INCHES (MM)

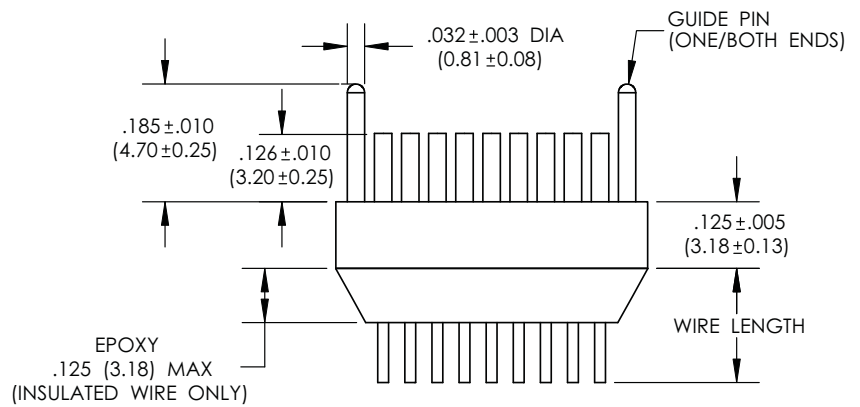
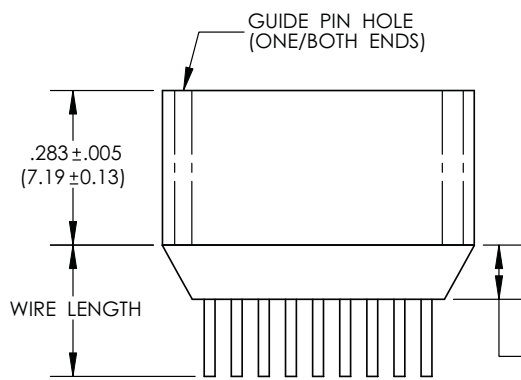
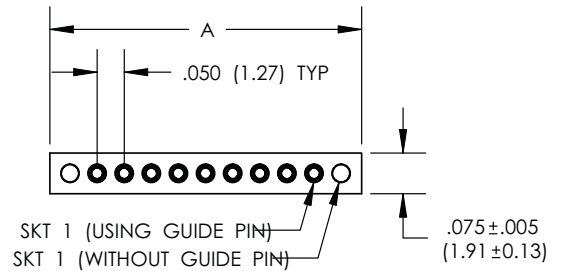
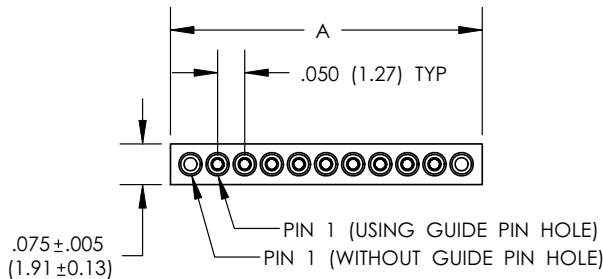
## Series 105



**PLUG**



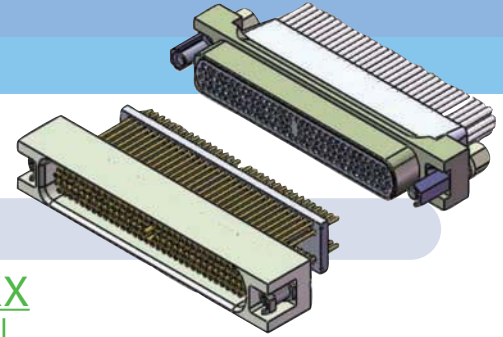
**RECEPTACLE**



| SIZE | A<br>±.005 (0.13) |
|------|-------------------|
| 01   | .075 (1.91)       |
| 02   | .125 (3.18)       |
| 03   | .175 (4.45)       |
| 04   | .225 (5.72)       |
| 05   | .275 (6.99)       |
| 06   | .325 (8.25)       |
| 07   | .375 (9.52)       |
| 08   | .425 (10.80)      |
| 09   | .475 (12.07)      |
| 10   | .525 (13.34)      |
| 11   | .575 (14.61)      |
| 12   | .625 (15.88)      |
| 13   | .675 (17.15)      |
| 14   | .725 (18.42)      |
| 15   | .775 (19.69)      |

| SIZE | A<br>±.005 (0.13) |
|------|-------------------|
| 16   | .825 (20.96)      |
| 17   | .875 (22.23)      |
| 18   | .925 (23.50)      |
| 19   | .975 (24.77)      |
| 20   | 1.025 (26.04)     |
| 21   | 1.075 (27.31)     |
| 22   | 1.125 (28.58)     |
| 23   | 1.175 (29.85)     |
| 24   | 1.225 (31.12)     |
| 25   | 1.275 (32.39)     |
| 26   | 1.325 (33.66)     |
| 27   | 1.375 (34.93)     |
| 28   | 1.425 (36.20)     |
| 29   | 1.475 (37.47)     |
| 30   | 1.525 (38.74)     |

## Series 106



**Example:**  
106RN120P-BS

**Description:** metal shell size 120 plug, nickel finish, vertical PCB mount, with polarizing hardware.

106 R X XXX X - X X X - XX

**Connector Series**

106 = Hi-density card connector

**Insulator Material**

R = Polyphenylene Sulfide (Ryton)

**Shell Finish**

- A = anodize
- C = cadmium
- G = gold
- I = irridite/alodine
- N = electroless nickel
- T = tin

**Connector Size**

50, 54, 58, 62, 66, 70, 74, 104, 112, 120, 128, 136, 144, 152

**Connector Type**

- P = Plug (pin)
- S = Receptacle (socket)

**Wire Length** (inches +1.00/-0.00)

e.g. 1 = 1 inches, 100 = 100 inches  
Omit for PCB termination

**Wire Colour / Finish**

- 1 = all white (M83513 standard) \*off shelf
  - 2 = all yellow
  - 6 = 1st 10 colours blk. thru wht. repeated (M83513 standard) \*off shelf
- Omit for PCB termination

**Wire Type**

**General Applications:**

- A = 7 strd, per NEMA-HP3 (formerly MIL-W-16878/4)
- B = 7 strd, per NEMA-HP3 (formerly MIL-W-16878/6)
- C = 19 strd, per NEMA-HP3 (formerly MIL-W-16878/4)
- D = 19 strd, per NEMA-HP3 (formerly MIL-W-16878/6)

**Termination Type**

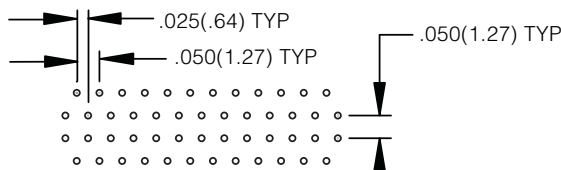
**Wire Harness (Wire Size AWG):**

- 2 = 30
- 3 = 28
- 4 = 26 (M83513 standard) \*off shelf
- 6 = 24

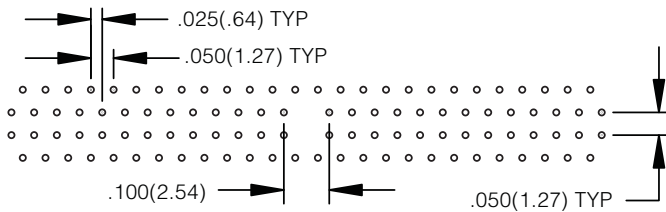
**Vertical PCB Mount:**

BS = Straight PCB Termination

### CONTACT ARRANGEMENTS



**SIZES 50-74**



**SIZES 104-152**

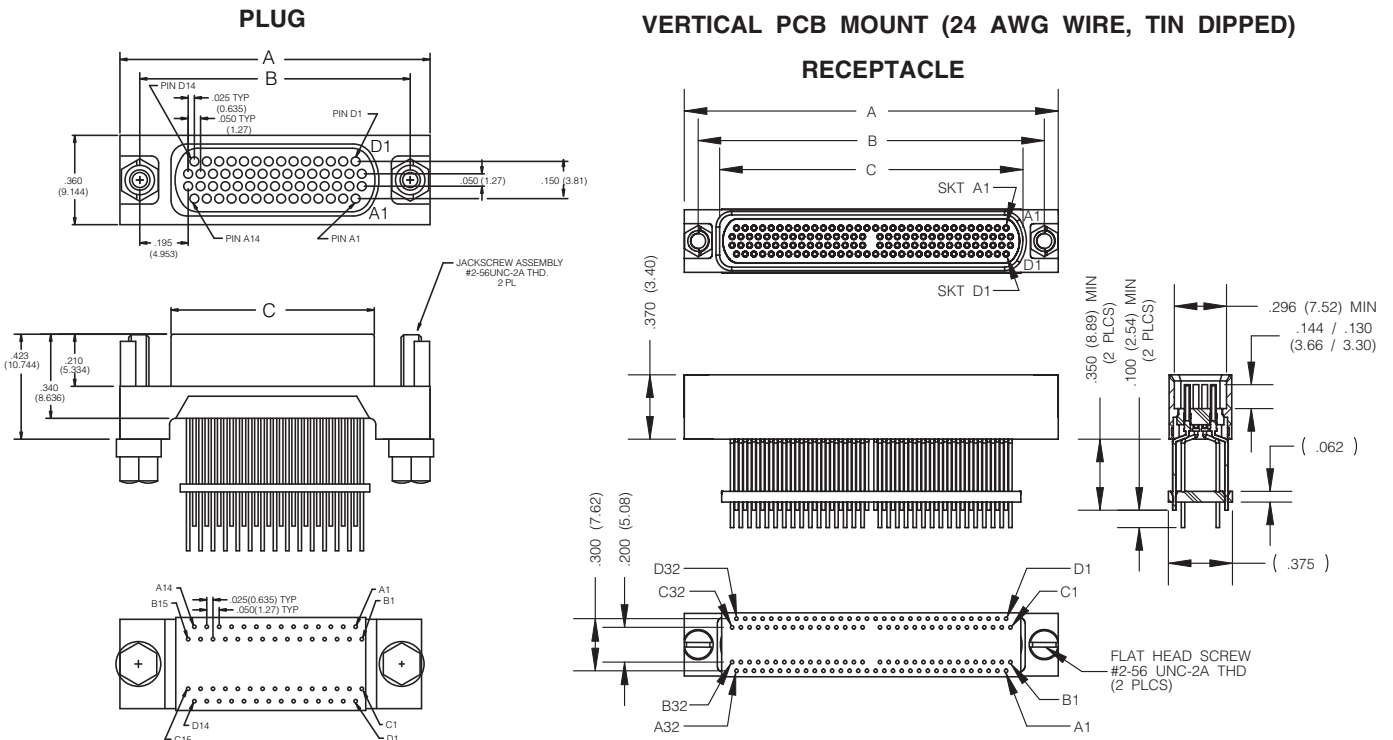
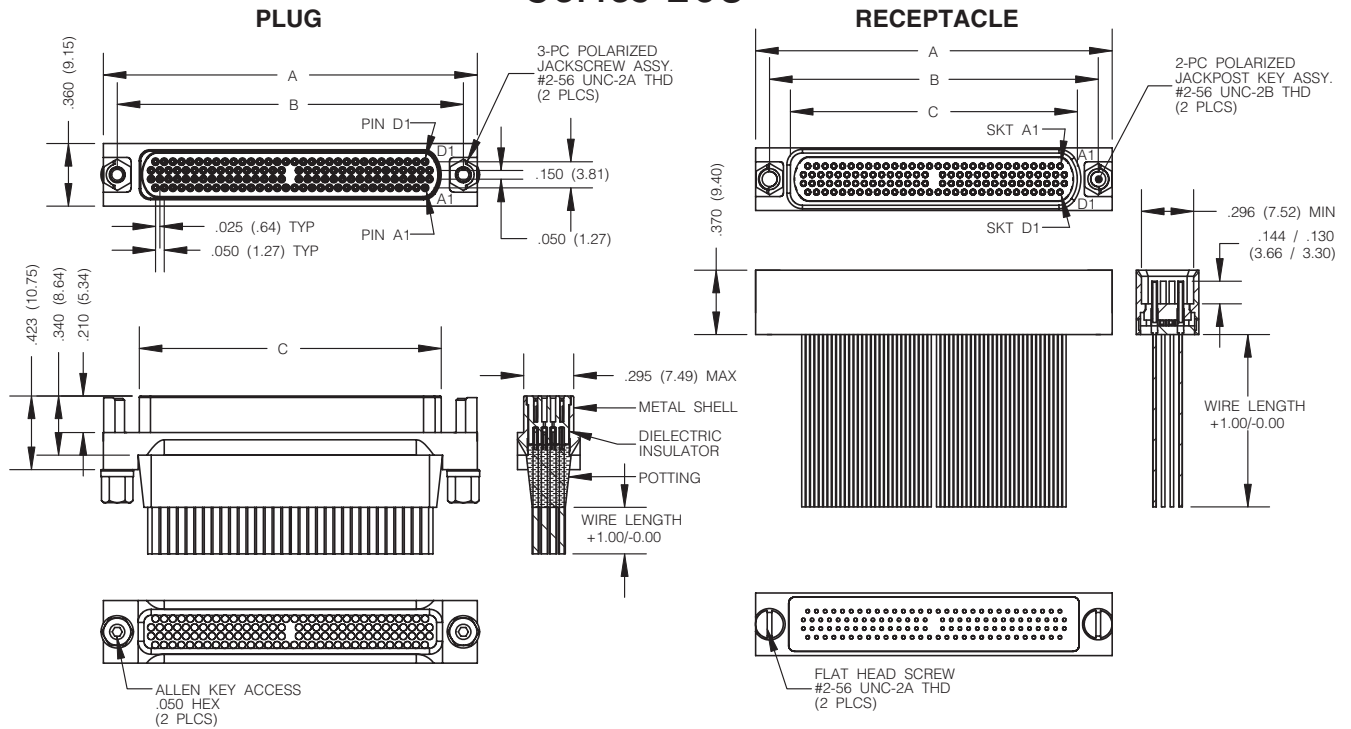
| SIZE | A<br>±.005 (0.13) | B<br>±.005 (0.13) | C<br>MAX      |               |
|------|-------------------|-------------------|---------------|---------------|
|      |                   |                   | PLUG          | RCPT          |
| 50   | 1.150 (29.21)     | .990 (24.15)      | .741 (18.82)  | .747 (18.97)  |
| 54   | 1.200 (30.48)     | 1.040 (26.62)     | .791 (20.09)  | .797 (20.24)  |
| 58   | 1.250 (31.75)     | 1.090 (27.69)     | .841 (21.36)  | .847 (21.51)  |
| 62   | 1.300 (33.02)     | 1.140 (28.96)     | .891 (22.63)  | .897 (22.78)  |
| 66   | 1.350 (34.29)     | 1.190 (30.23)     | .941 (23.90)  | .947 (24.05)  |
| 70   | 1.400 (35.56)     | 1.240 (31.51)     | .991 (25.17)  | .997 (25.32)  |
| 74   | 1.450 (36.83)     | 1.290 (32.77)     | 1.041 (26.44) | 1.047 (26.59) |
| 104  | 1.850 (46.99)     | 1.690 (42.93)     | 1.441 (36.60) | 1.447 (36.75) |
| 112  | 1.950 (49.53)     | 1.790 (45.47)     | 1.541 (39.14) | 1.547 (39.29) |
| 120  | 2.050 (52.07)     | 1.890 (48.01)     | 1.641 (41.68) | 1.647 (41.83) |
| 128  | 2.150 (54.61)     | 1.990 (50.55)     | 1.741 (44.22) | 1.747 (44.37) |
| 136  | 2.250 (57.15)     | 2.090 (53.09)     | 1.841 (46.76) | 1.847 (46.91) |
| 144  | 2.350 (59.69)     | 2.190 (55.63)     | 1.941 (49.30) | 1.947 (49.45) |
| 152  | 2.450 (62.23)     | 2.290 (58.17)     | 2.041 (51.84) | 2.047 (51.99) |

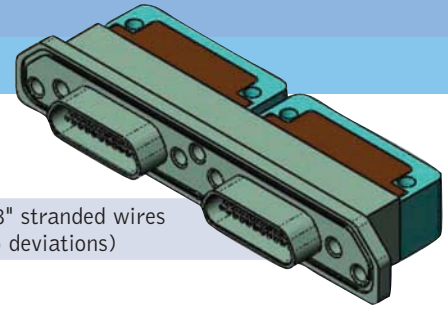
## FEATURES

Designed for a space conscious industry. Provides an extremely dense and reliable interconnection for card-to-card and card-to-cable applications. Connector performance per M83513 specifications. Available in vertical mount for thru-hole applications and wire harness termination styles for both plug and receptacle. Wide selection of wire sizes (24 thru 30). Shell employs a polarizing "D" shape for correct mating.



## Series 106





## Series M13

**Example:**  
M13-21S6APC11-000

**Description:** metal shell size 21 receptacle, nickel finish, 18" stranded wires per M22759/11, jackposts only, C-filter value 1000 pF (no deviations)

**M13 21 P 1 2 P T C 1 1 - 000**

**Connector Series**  
M13 = Filtered micro-d

**Connector Size (number of contacts)**  
09, 15, 21, 25, 31 and 37

**Connector Type**  
P = Plug (pin)  
S = Receptacle (socket)

**Termination Type**  
1 = vertical PCB "BS"  
2 = vertical PCB "C6"  
4 = right angle PCB "CBR"  
5 = solid wire straight  
6 = stranded wire

**Wire / Lead Length (inches)**  
1 = .109 +/- .015  
2 = .140 +/- .015  
3 = .172 +/- .015  
4 = .250 +/- .015

**For Termination Type 6 (inches +1.00/-0.00):**  
A = 18.00 per M22759/11-26 (mil-std-681, system 1)  
B = 36.00 per M22759/11-26 (mil-std-681, system 1)  
C = 72.00 per M22759/11-26 (mil-std-681, system 1)

**Deviation**  
XXX (000 is standard part)

**Plating**  
1 = Electroless Nickel  
2 = Tin  
3 = Cadmium (Clear Chromate)  
4 = Gold  
5 = Zn Ni

**Filter Value ( pF +100%/-0%)**  
A = 200  
B = 400  
C = 800  
1 = 1000  
2 = 2000  
4 = 4000  
8 = 8000  
T = 10,000  
H = 16,000  
0 = MIXED CAP

**Filter Type**  
P = Pi-Filter  
C = C-Filter  
0 = non-filtered equivalent part

**Insert Option**  
T = Threaded Insert (PCB terminations only)  
*Omit if not used*

**Mounting Hardware**  
A = .093" diameter mounting hole  
B = .125" diameter mounting hole  
L = Jackpost (loose)  
P = Jackpost (fixed)

### MATERIALS AND FINISHES

**Connector Shell:** Aluminum Alloy  
**Insulator:** Polyphenyl Sulfide (PPS)  
**Seals:** Silicone Rubber or Equivalent  
**Pin Contact:** Beryllium Copper with 50 microinches gold over nickel plating  
**Socket Contact:** Copper alloy with 50 microinches gold over nickel plating  
**Hardware:** 300 series stainless steel  
**PCB Terminals:** Gold plated copper alloy, solder dipped  
**Capacitors:** Planar ceramic array  
**Inductors:** Ferrite  
**EMI Ground Spring:** Beryllium Copper  
**Encapsulant:** Thermally conductive epoxy

### QUALITY CONFORMANCE INSPECTION

Series M13 connectors have been extensively qualified per the requirements of MIL-DTL-83513. All products shipped have the following inspection tests:

- 100% visual and mechanical inspections
- 100% capacitance, DWV, insulation resistance and dissipation factor testing
- Sample insertion loss testing (AQL 1.0%)

For high reliability applications, the following inspection tests or certifications are also available:

- Thermal shock
- Elevated temperature voltage conditioning
- Elevated temperature insulation resistance and capacitance
- Outgassing per JSC-SPR-0022 for space-borne applications
- Baseline and single lot date code manufacturing
- Other tests as required (consult the factory)

INCHES (MM)

## FEATURES

Amphenol Canada's M13 connector series is a range of filtered MIL-DTL-83513 Micro-D products for military and aerospace applications. These extremely small filter connectors employ monolithic planar capacitors in a rugged, high density package ideally suited for applications where space and weight is restricted. Available in a variety of filter types and mechanical configurations including wired harnesses and PCB terminations. The M13 series are fully intermateable with all standard MIL-DTL-83513 connectors and meet the applicable performance and environmental requirements.

**Amphenol**  
Canada



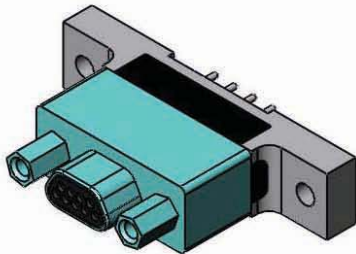
## Series M13

### C-FILTER SPECIFICATIONS

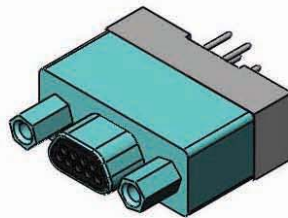
| Filter Circuits  |          | C, CLR, LRC |            |             |              |              |               |
|--|----------|-------------|------------|-------------|--------------|--------------|---------------|
| Capacitance (pF) (@ 25 C, 1 kHz and 1.0 VRMS)                                  |          | 150 TO 300  | 300 TO 500 | 600 TO 1200 | 1200 TO 3200 | 4000 TO 8000 | 8000 TO 16000 |
| Insertion Loss (dB min.)   | .1 MHz   | -           | -          | -           | -            | -            | -             |
| (per MIL-STD-220   | 1 MHz    | -           | -          | -           | -            | -            | -             |
| @ 25 C and no load)  | 10 MHz   | -           | -          | 2           | 5            | 13           | 18            |
|  | 100 MHz  | 6           | 12         | 17          | 24           | 33           | 40            |
|  | 1000 MHz | 25          | 31         | 38          | 43           | 54           | 60            |
| Working Voltage (VDC) (@ 25 C & sea level)                                     |          | 100         |            |             |              |              |               |
| Dielectric Withstanding Voltage (VDC) (@ 25 C and 50 mA max. charging current) |          | 300         |            |             |              |              |               |
| Insulation Resistance (Gohms)  |          |             |            |             |              |              |               |
| (@ 25 C and working voltage)   |          | 5           |            |             |              |              |               |
| Contact Current Rating (continuous max. DC amperes)                            |          | 3           |            |             |              |              |               |
| Filter RF Current Rating (amperes) (max. @ any frequency)                      |          | 0.3         |            |             |              |              |               |

### PI-FILTER SPECIFICATIONS

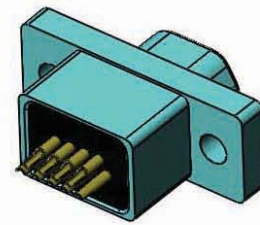
| Filter Circuits  |          | Pi         |            |             |              |              |               |
|--|----------|------------|------------|-------------|--------------|--------------|---------------|
| Capacitance (pF) (@ 25 C, 1 kHz and 1.0 VRMS)                                  |          | 150 TO 300 | 300 TO 500 | 600 TO 1200 | 1200 TO 3200 | 4000 TO 8000 | 8000 TO 16000 |
| Insertion Loss (dB min.)   | .1 MHz   | -          | -          | -           | -            | -            | -             |
| (per MIL-STD-220   | 1 MHz    | -          | -          | -           | -            | -            | 3             |
| @ 25 C and no load)  | 10 MHz   | -          | -          | 2           | 5            | 13           | 18            |
|  | 100 MHz  | 7          | 12         | 18          | 26           | 45           | 57            |
|  | 1000 MHz | 30         | 42         | 53          | 60           | 60           | 60            |
| Working Voltage (VDC) (@ 25 C & sea level)                                     |          | 100        |            |             |              |              |               |
| Dielectric Withstanding Voltage (VDC) (@ 25 C and 50 mA max. charging current) |          | 300        |            |             |              |              |               |
| Insulation Resistance (Gohms)  |          |            |            |             |              |              |               |
| (@ 25 C and working voltage)   |          | 5          |            |             |              |              |               |
| Contact Current Rating (continuous max. DC amperes)                            |          | 3          |            |             |              |              |               |
| Filter RF Current Rating (amperes) (max. @ any frequency)                      |          | 0.3        |            |             |              |              |               |



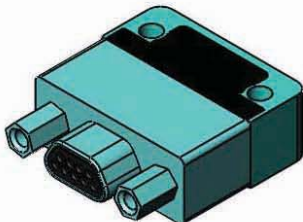
TERMINATION TYPE 1  
VERTICAL PCB "BS"



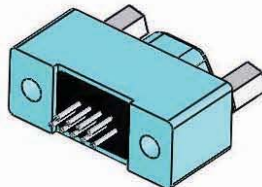
TERMINATION TYPE 2  
VERTICAL PCB "C6"



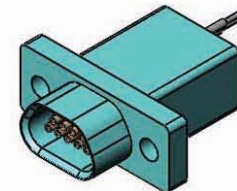
TERMINATION TYPE 3  
SOLDER CUP



TERMINATION TYPE 4  
RIGHT ANGLE PCB "CBR"

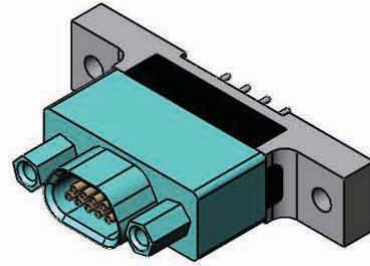
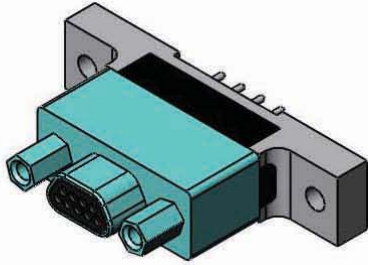


TERMINATION TYPE 5  
SOLID WIRE STRAIGHT



TERMINATION TYPE 6  
STRANDED WIRE

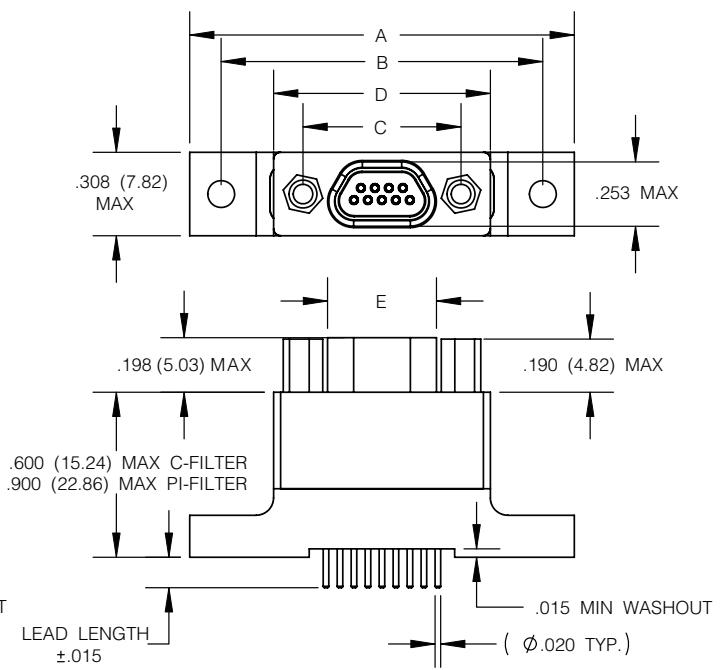
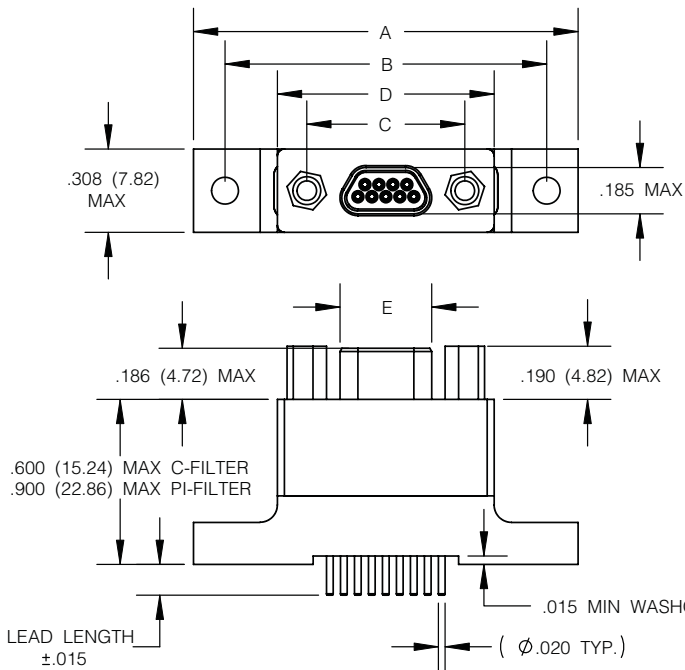
Series M13



PLUG

RECEPTACLE

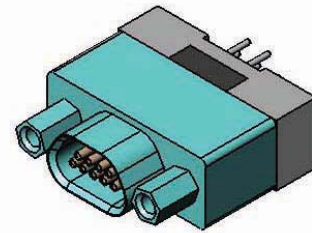
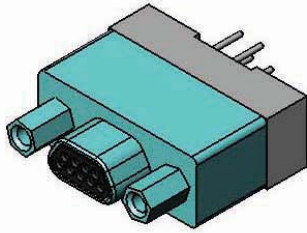
\* INTERFACIAL SEAL INCLUDED



| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>±.005 (0.13) | D<br>MAX      | E<br>MAX      |               |
|------|---------------|-------------------|-------------------|---------------|---------------|---------------|
|      |               |                   |                   |               | PLUG          | RCPT          |
| 09   | 1.390 (35.31) | 1.150 (29.21)     | .565 (14.35)      | .785 (19.84)  | .334 (8.48)   | .402 (10.21)  |
| 15   | 1.390 (35.31) | 1.150 (29.21)     | .715 (18.16)      | .935 (23.75)  | .484 (12.29)  | .552 (13.97)  |
| 21   | 1.690 (43.93) | 1.450 (36.83)     | .865 (21.97)      | 1.085 (27.56) | .634 (16.10)  | .702 (17.83)  |
| 25   | 1.740 (44.20) | 1.500 (38.10)     | .965 (24.51)      | 1.185 (30.10) | .734 (18.64)  | .802 (20.37)  |
| 31   | 2.040 (51.82) | 1.800 (45.72)     | 1.115 (28.32)     | 1.335 (33.91) | .884 (22.45)  | .952 (24.18)  |
| 37   | 2.340 (59.44) | 2.100 (53.34)     | 1.265 (32.13)     | 1.485 (37.72) | 1.034 (26.26) | 1.102 (27.99) |

REFER TO PAGE 16 FOR STRAIGHT PC CONFIGURATIONS (REAR VIEW)

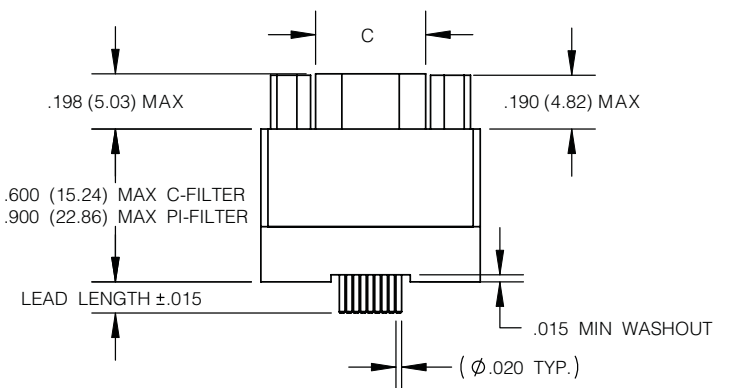
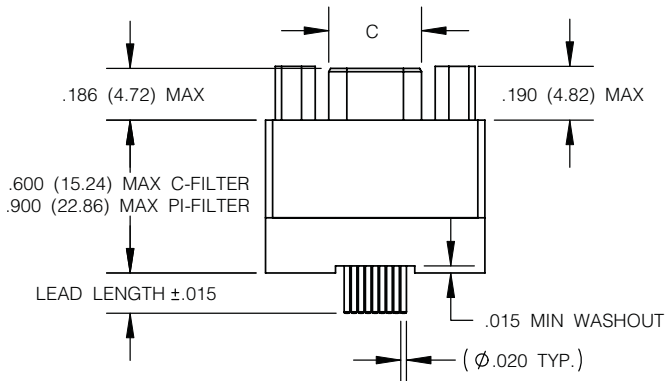
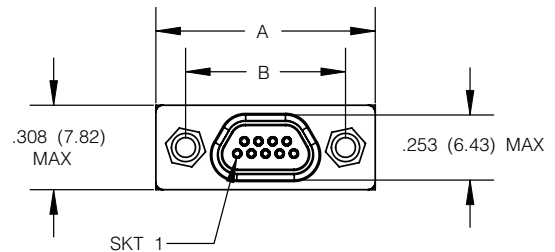
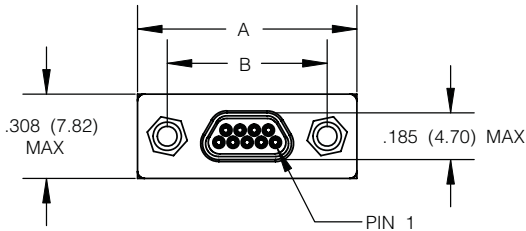
# Series M13



**PLUG**

**RECEPTACLE**

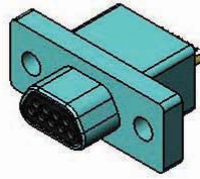
\* INTERFACIAL SEAL INCLUDED



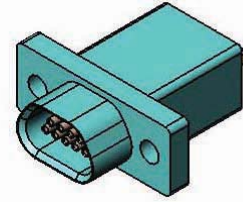
| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>MAX      |               |
|------|---------------|-------------------|---------------|---------------|
|      |               |                   | PLUG          | RCPT          |
| 09   | .785 (19.94)  | .565 (14.35)      | .334 (8.48)   | .402 (10.21)  |
| 15   | .935 (23.75)  | .715 (18.16)      | .484 (12.29)  | .552 (13.97)  |
| 21   | 1.085 (27.56) | .865 (21.97)      | .634 (16.10)  | .702 (17.83)  |
| 25   | 1.185 (30.10) | .965 (24.51)      | .734 (18.64)  | .802 (20.37)  |
| 31   | 1.335 (33.91) | 1.115 (28.32)     | .884 (22.45)  | .952 (24.18)  |
| 37   | 1.485 (37.72) | 1.265 (32.13)     | 1.034 (26.26) | 1.102 (27.99) |

REFER TO PAGE 23 FOR VERTICAL MOUNT PC CONFIGURATIONS (REAR VIEW)

# Series M13

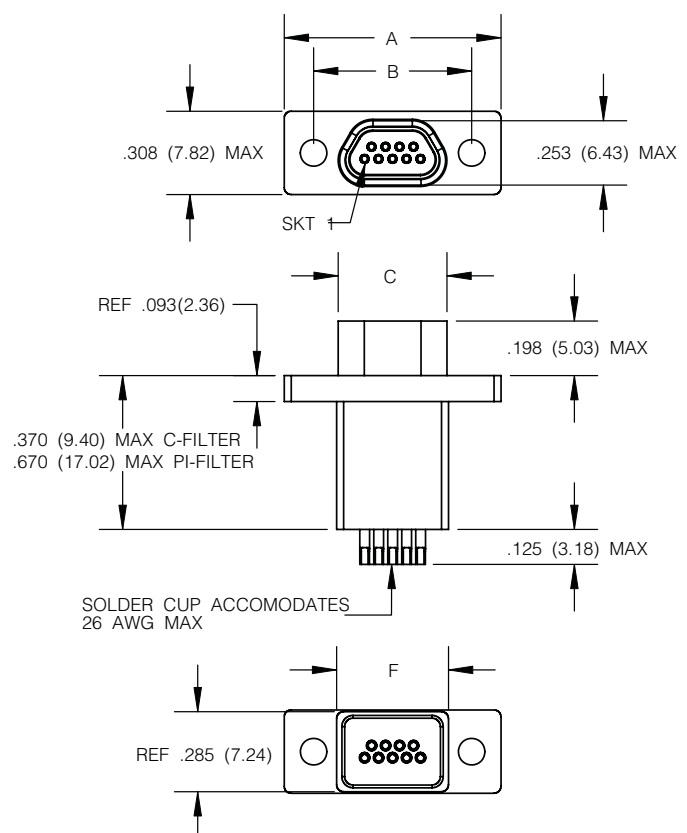
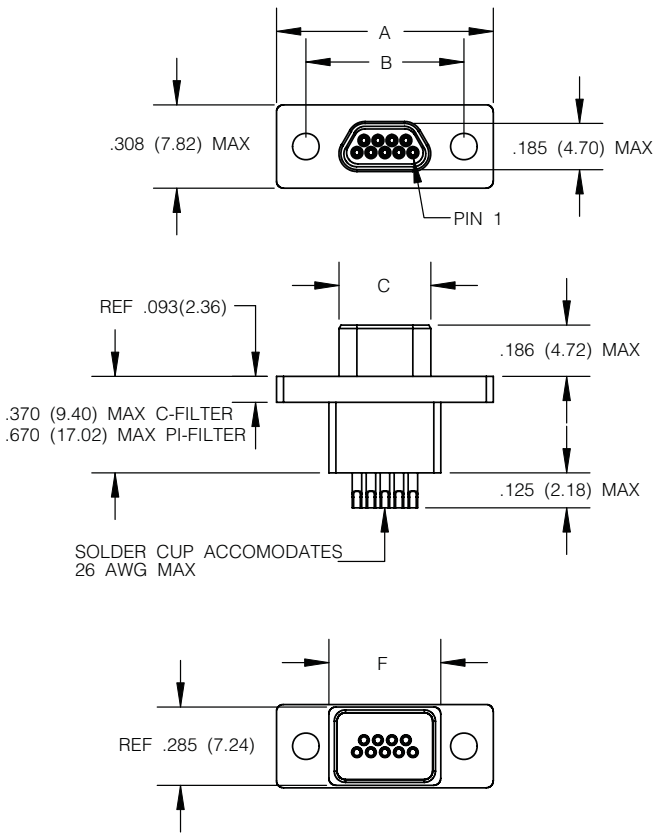


**PLUG**



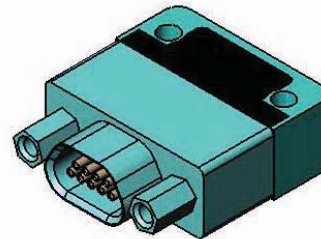
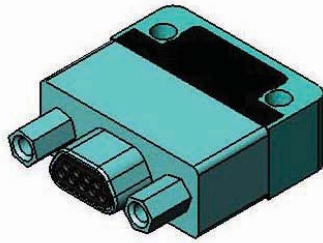
**RECEPTACLE**

\* INTERFACIAL SEAL INCLUDED



| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>MAX      |               | F<br>MAX      |
|------|---------------|-------------------|---------------|---------------|---------------|
|      |               |                   | PLUG          | RCPT          |               |
| 09   | .785 (19.94)  | .565 (14.35)      | .334 (8.48)   | .402 (10.21)  | .400 (10.16)  |
| 15   | .935 (23.75)  | .715 (18.16)      | .484 (12.29)  | .552 (13.97)  | .550 (13.97)  |
| 21   | 1.085 (27.56) | .865 (21.97)      | .634 (16.10)  | .702 (17.83)  | .700 (17.78)  |
| 25   | 1.185 (30.10) | .965 (24.51)      | .734 (18.64)  | .802 (20.37)  | .800 (20.32)  |
| 31   | 1.335 (33.91) | 1.115 (28.32)     | .884 (22.45)  | .952 (24.18)  | .950 (24.13)  |
| 37   | 1.485 (37.72) | 1.265 (32.13)     | 1.034 (26.26) | 1.102 (27.99) | 1.100 (27.94) |

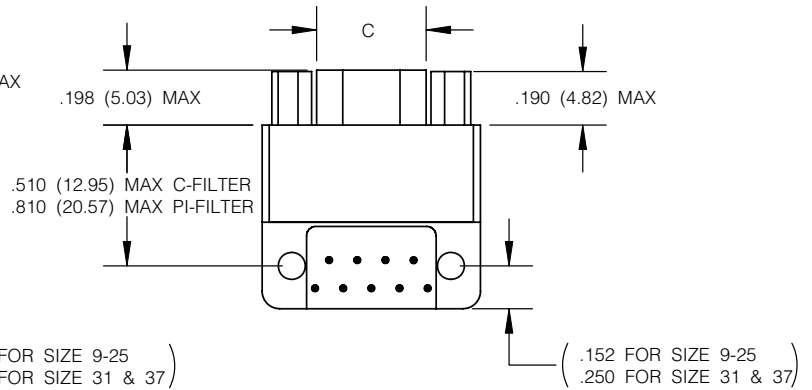
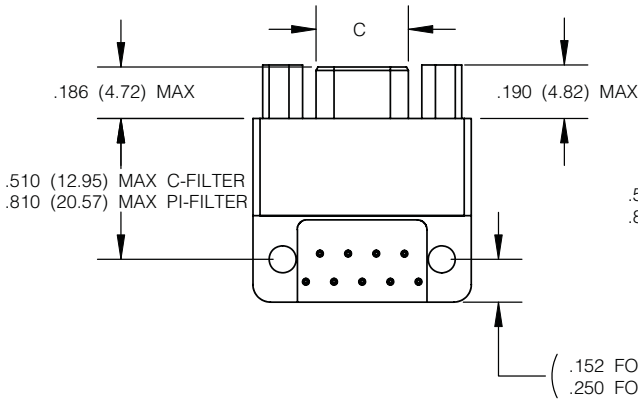
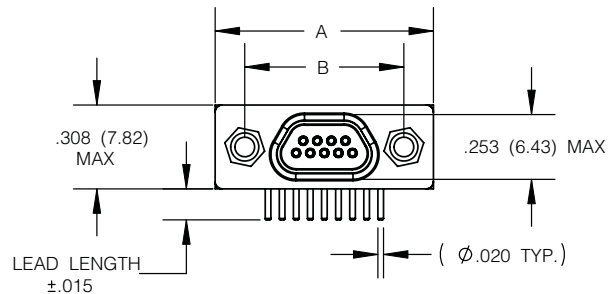
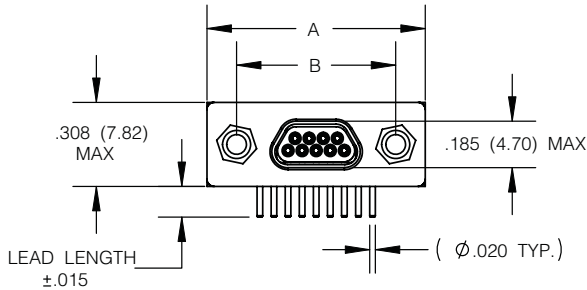
# Series M13



**PLUG**

**RECEPTACLE**

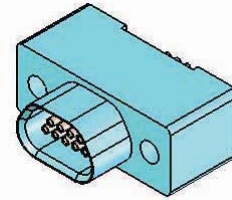
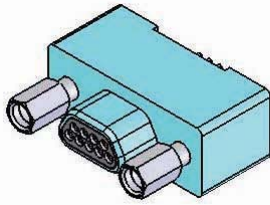
\* INTERFACIAL SEAL INCLUDED



| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>MAX      |               |
|------|---------------|-------------------|---------------|---------------|
|      |               |                   | PLUG          | RCPT          |
| 09   | .785 (19.94)  | .565 (14.35)      | .334 (8.48)   | .402 (10.21)  |
| 15   | .935 (23.75)  | .715 (18.16)      | .484 (12.29)  | .552 (13.97)  |
| 21   | 1.085 (27.56) | .865 (21.97)      | .634 (16.10)  | .702 (17.83)  |
| 25   | 1.185 (30.10) | .965 (24.51)      | .734 (18.64)  | .802 (20.37)  |
| 31   | 1.335 (33.91) | 1.115 (28.32)     | .884 (22.45)  | .952 (24.18)  |
| 37   | 1.485 (37.72) | 1.265 (32.13)     | 1.034 (26.26) | 1.102 (27.99) |

REFER TO PAGE 20 FOR RIGHT ANGLE (90 DEG) NARROW PROFILE PC CONFIGURATIONS

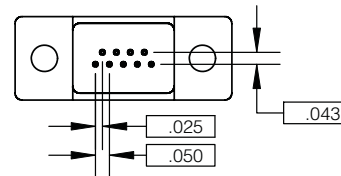
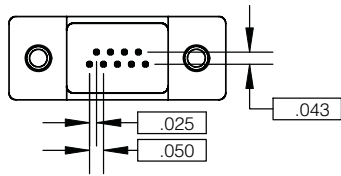
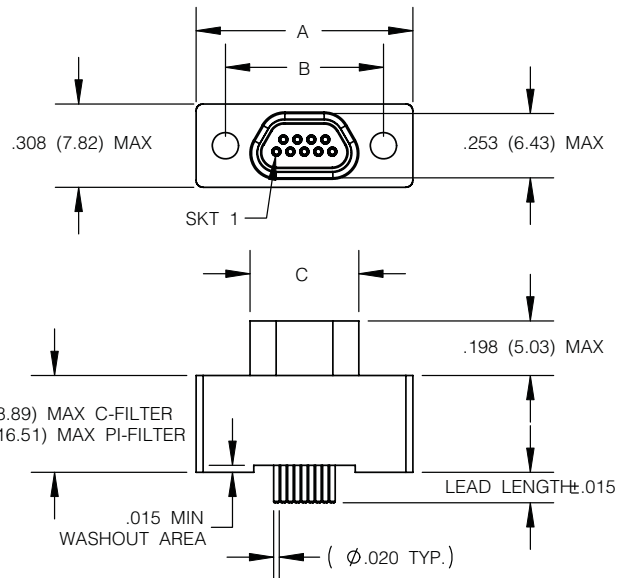
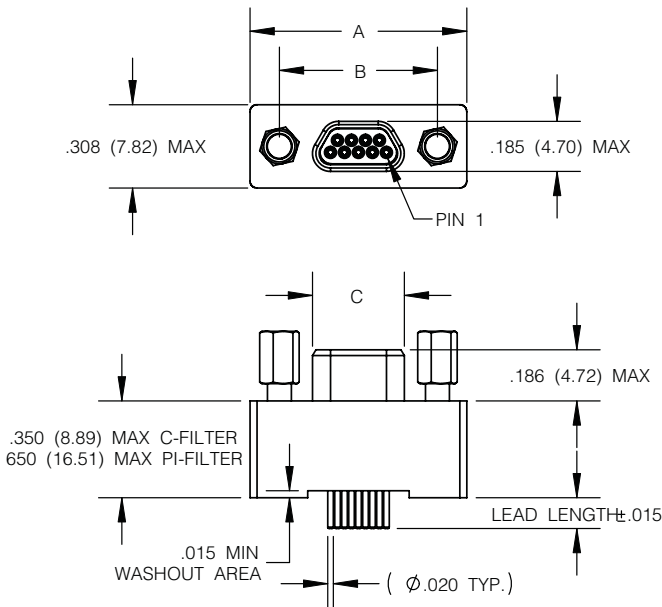
# Series M13



PLUG

RECEPTACLE

\* INTERFACIAL SEAL INCLUDED



| SIZE | A<br>MAX      | B<br>±.005 (0.13) | C<br>MAX      |               |
|------|---------------|-------------------|---------------|---------------|
|      |               |                   | PLUG          | RCPT          |
| 09   | .785 (19.94)  | .565 (14.35)      | .334 (8.48)   | .402 (10.21)  |
| 15   | .935 (23.75)  | .715 (18.16)      | .484 (12.29)  | .552 (13.97)  |
| 21   | 1.085 (27.56) | .865 (21.97)      | .634 (16.10)  | .702 (17.83)  |
| 25   | 1.185 (30.10) | .965 (24.51)      | .734 (18.64)  | .802 (20.37)  |
| 31   | 1.335 (33.91) | 1.115 (28.32)     | .884 (22.45)  | .952 (24.18)  |
| 37   | 1.485 (37.72) | 1.265 (32.13)     | 1.034 (26.26) | 1.102 (27.99) |

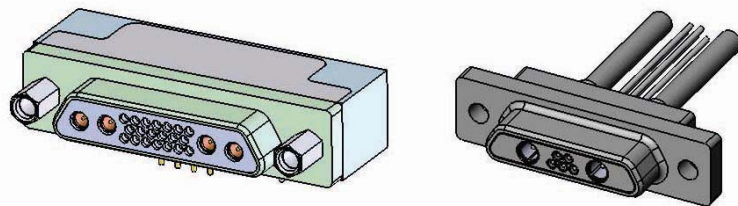
## NEED A SPECIAL CONNECTOR?

Amphenol has designed a range of specialty connectors to meet your specific requirements. Our connectors are designed to be compact, robust, and multi-functional.

Please contact us for more information.

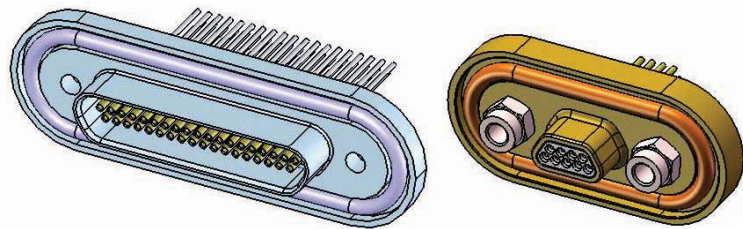
### COMBO / HYBRID MICRO-D

- Suitable for compact designs
- Coax / Power / Signal contacts
- Metal or plastic shell
- Available sizes 9 thru 100
- Available in various shell finishes
- Wire or PCB termination
- Standard to custom hardware available



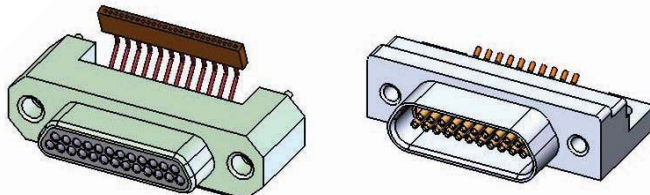
### PANEL MOUNT W/O-RING SEAL

- Suitable for external panel applications
- Meets IP-67 sealing requirement
- Metal or plastic shell
- Available sizes 9 thru 100
- Available in various shell finishes
- Wire or PCB termination
- Standard to custom hardware available
- Blind mounting holes



### SURFACE MOUNT / STRADDLE MOUNT

- Suitable for limited board space
- Vertical or horizontal mount
- .050" pad spacing
- Metal or plastic shell
- Available sizes 9 thru 37
- Standard to custom hardware available



### HIGH TEMPERATURE MICRO-D (200C)

- Suitable for oil and gas applications
- Metal or plastic shell
- Special high temp dielectric insulator
- High temp solder
- Available sizes 9 thru 100
- Available in various shell finishes
- Wire gauge range 32 AWG to 24 AWG
- Multiple wire lengths (+1.00 / -0.00)
- Standard to custom hardware available

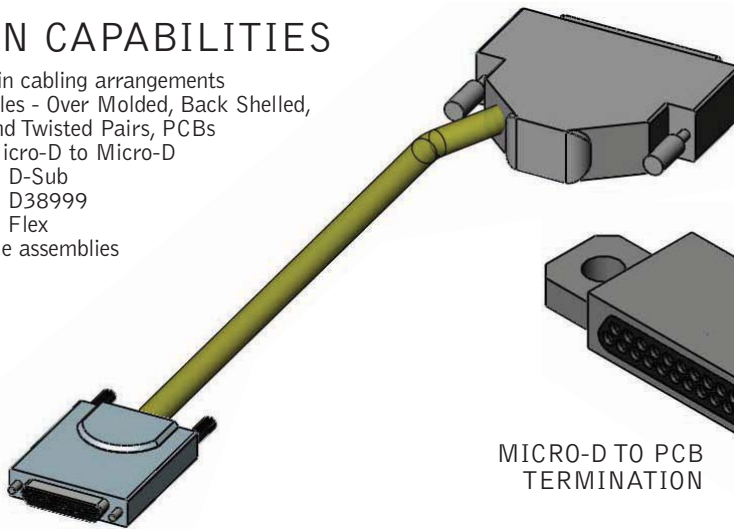


# Amphenol designs and manufactures the Right Solution for your needs!

Premium service, fast response time...  
imagine the possibilities!

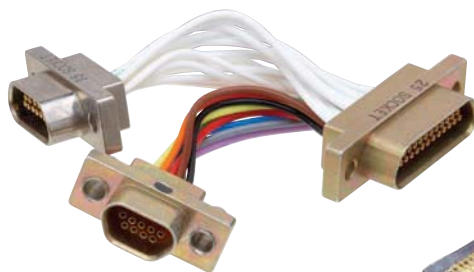
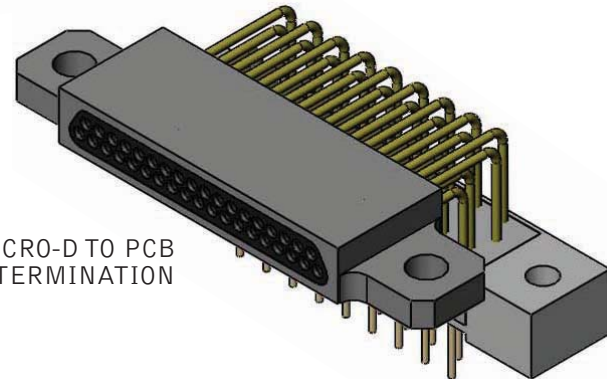
## DESIGN CAPABILITIES

- Specialize in cabling arrangements
- Cabling styles - Over Molded, Back Shelled, Shielded and Twisted Pairs, PCBs
- Multiple Micro-D to Micro-D
- Micro-D to D-Sub
- Micro-D to D38999
- Micro-D to Flex
- Space grade assemblies

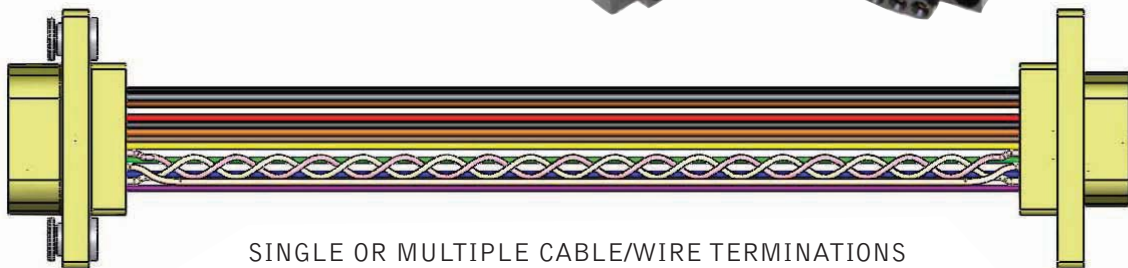
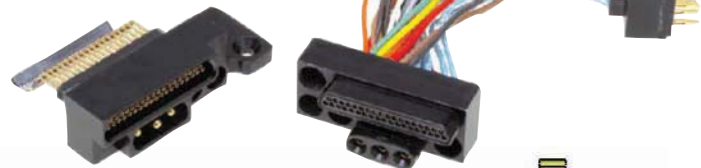


SINGLE OR MULTIPLE  
CABLE/WIRE TERMINATIONS  
(MICRO-D TO D-SUB,  
SHIELDED TEFLON CABLE)

MICRO-D TO PCB  
TERMINATION



MICRO-D TO HEADER  
OR OTHER PRODUCT  
TERMINATION



SINGLE OR MULTIPLE CABLE/WIRE TERMINATIONS  
(MICRO-D TO MICRO-D, TWISTED PAIRS AVAILABLE)

**Amphenol**  
Canada

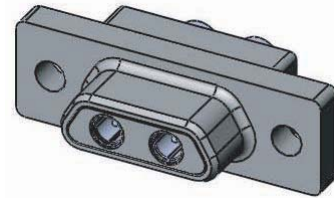
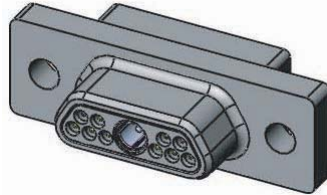


## DESIGN CAPABILITIES

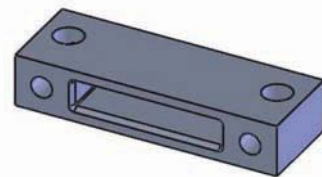
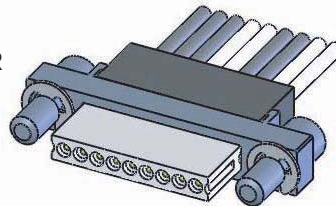
- Contact arrangements up to 372 positions
- Contact styles - Fiber Optic, Power, Signal, RF
- Mounting styles - SMT, Through Hole, Press Fit, Solder Cup, Blind Mate
- Custom contact lengths for multiple PCB thickness
- Custom connector shell designs available
- Standard to custom hardware available



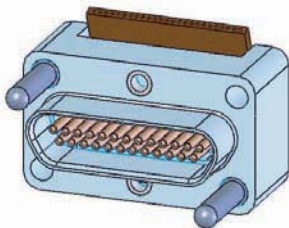
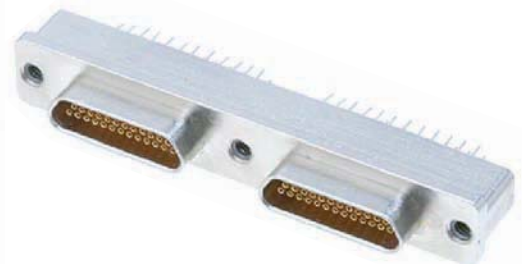
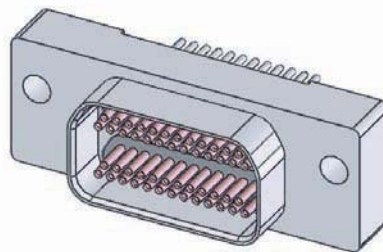
CUSTOM INSERT PATTERN  
(SIGNAL & POWER OR  
COAX CONTACTS)



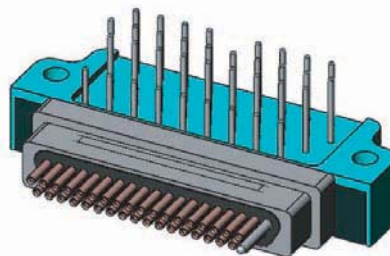
CUSTOM STRIP LINE CONNECTOR  
WITH MOUNTING FEATURES



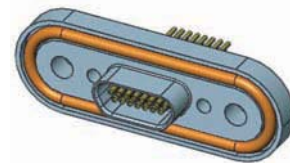
DOUBLE OR MULTIPLE BAY  
(VERTICAL / HORIZONTAL  
ORIENTATION)



CUSTOM SURFACE MOUNT  
WITH GUIDE PINS AND  
THREADED MOUNTING  
FEATURES



CUSTOM SHELL, PCB CONNECTOR  
(CBR TERMINATION SHOWN)



IP-67 O-RING PANEL MOUNT

**Amphenol**  
Canada

| AWG        | DIAMETER |        |
|------------|----------|--------|
|            | (INCH)   | (MM)   |
| 0000 (4/0) | 0.46     | 11.684 |
| 000 (3/0)  | 0.4096   | 10.404 |
| 00 (2/0)   | 0.3648   | 9.266  |
| 0 (1/0)    | 0.3249   | 8.252  |
| 1          | 0.2893   | 7.348  |
| 2          | 0.2576   | 6.544  |
| 3          | 0.2294   | 5.827  |
| 4          | 0.2043   | 5.189  |
| 5          | 0.1819   | 4.621  |
| 6          | 0.162    | 4.115  |
| 7          | 0.1443   | 3.665  |
| 8          | 0.1285   | 3.264  |
| 9          | 0.1144   | 2.906  |
| 10         | 0.1019   | 2.588  |
| 11         | 0.0907   | 2.305  |
| 12         | 0.0808   | 2.053  |
| 13         | 0.072    | 1.828  |
| 14         | 0.0641   | 1.628  |
| 15         | 0.0571   | 1.45   |
| 16         | 0.0508   | 1.291  |
| 17         | 0.0453   | 1.15   |
| 18         | 0.0403   | 1.024  |
| 19         | 0.0359   | 0.912  |
| 20         | 0.032    | 0.812  |
| 21         | 0.0285   | 0.723  |
| 22         | 0.0253   | 0.644  |
| 23         | 0.0226   | 0.573  |
| 24         | 0.0201   | 0.511  |
| 25         | 0.0179   | 0.455  |
| 26         | 0.0159   | 0.405  |
| 27         | 0.0142   | 0.361  |
| 28         | 0.0126   | 0.321  |
| 29         | 0.0113   | 0.286  |
| 30         | 0.01     | 0.255  |
| 31         | 0.00893  | 0.227  |
| 32         | 0.00795  | 0.202  |
| 33         | 0.00708  | 0.18   |
| 34         | 0.0063   | 0.16   |
| 35         | 0.00561  | 0.143  |
| 36         | 0.005    | 0.127  |
| 37         | 0.00445  | 0.113  |
| 38         | 0.00397  | 0.101  |
| 39         | 0.00353  | 0.0897 |
| 40         | 0.00314  | 0.0799 |

| PIN | BASE COLOUR | 1st STRIPE | 2nd STRIPE | 3rd STRIPE |
|-----|-------------|------------|------------|------------|
| 1   | BLACK       | -          | -          | -          |
| 2   | BROWN       | -          | -          | -          |
| 3   | RED         | -          | -          | -          |
| 4   | ORANGE      | -          | -          | -          |
| 5   | YELLOW      | -          | -          | -          |
| 6   | GREEN       | -          | -          | -          |
| 7   | BLUE        | -          | -          | -          |
| 8   | VIOLET      | -          | -          | -          |
| 9   | GREY        | -          | -          | -          |
| 10  | WHITE       | -          | -          | -          |
| 11  | WHITE       | BLACK      | -          | -          |
| 12  | WHITE       | BROWN      | -          | -          |
| 13  | WHITE       | RED        | -          | -          |
| 14  | WHITE       | ORANGE     | -          | -          |
| 15  | WHITE       | YELLOW     | -          | -          |
| 16  | WHITE       | GREEN      | -          | -          |
| 17  | WHITE       | BLUE       | -          | -          |
| 18  | WHITE       | VIOLET     | -          | -          |
| 19  | WHITE       | GREY       | -          | -          |
| 20  | WHITE       | BLACK      | BROWN      | -          |
| 21  | WHITE       | BLACK      | RED        | -          |
| 22  | WHITE       | BLACK      | ORANGE     | -          |
| 23  | WHITE       | BLACK      | YELLOW     | -          |
| 24  | WHITE       | BLACK      | GREEN      | -          |
| 25  | WHITE       | BLACK      | BLUE       | -          |
| 26  | WHITE       | BLACK      | VIOLET     | -          |
| 27  | WHITE       | BLACK      | GREY       | -          |
| 28  | WHITE       | BROWN      | RED        | -          |
| 29  | WHITE       | BROWN      | ORANGE     | -          |
| 30  | WHITE       | BROWN      | YELLOW     | -          |
| 31  | WHITE       | BROWN      | GREEN      | -          |
| 32  | WHITE       | BROWN      | BLUE       | -          |
| 33  | WHITE       | BROWN      | VIOLET     | -          |
| 34  | WHITE       | BROWN      | GREY       | -          |
| 35  | WHITE       | RED        | ORANGE     | -          |
| 36  | WHITE       | RED        | YELLOW     | -          |
| 37  | WHITE       | RED        | GREEN      | -          |
| 38  | WHITE       | RED        | BLUE       | -          |
| 39  | WHITE       | RED        | VIOLET     | -          |
| 40  | WHITE       | RED        | GREY       | -          |
| 41  | WHITE       | ORANGE     | YELLOW     | -          |
| 42  | WHITE       | ORANGE     | GREEN      | -          |
| 43  | WHITE       | ORANGE     | BLUE       | -          |
| 44  | WHITE       | ORANGE     | VIOLET     | -          |
| 45  | WHITE       | ORANGE     | GREY       | -          |
| 46  | WHITE       | YELLOW     | GREEN      | -          |
| 47  | WHITE       | YELLOW     | BLUE       | -          |
| 48  | WHITE       | YELLOW     | VIOLET     | -          |
| 49  | WHITE       | YELLOW     | GREY       | -          |
| 50  | WHITE       | GREEN      | BLUE       | -          |

| PIN | BASE COLOUR | 1st STRIPE | 2nd STRIPE | 3rd STRIPE |
|-----|-------------|------------|------------|------------|
| 51  | WHITE       | GREEN      | VIOLET     | -          |
| 52  | WHITE       | GREEN      | GREY       | -          |
| 53  | WHITE       | BLUE       | VIOLET     | -          |
| 54  | WHITE       | BLUE       | GREY       | -          |
| 55  | WHITE       | VIOLET     | GREY       | -          |
| 56  | WHITE       | BLACK      | BROWN      | RED        |
| 57  | WHITE       | BLACK      | BROWN      | ORANGE     |
| 58  | WHITE       | BLACK      | BROWN      | YELLOW     |
| 59  | WHITE       | BLACK      | BROWN      | GREEN      |
| 60  | WHITE       | BLACK      | BROWN      | BLUE       |
| 61  | WHITE       | BLACK      | BROWN      | VIOLET     |
| 62  | WHITE       | BLACK      | BROWN      | GREY       |
| 63  | WHITE       | BLACK      | RED        | ORANGE     |
| 64  | WHITE       | BLACK      | RED        | YELLOW     |
| 65  | WHITE       | BLACK      | RED        | GREEN      |
| 66  | WHITE       | BLACK      | RED        | BLUE       |
| 67  | WHITE       | BLACK      | RED        | VIOLET     |
| 68  | WHITE       | BLACK      | RED        | GREY       |
| 69  | WHITE       | BLACK      | ORANGE     | YELLOW     |
| 70  | WHITE       | BLACK      | ORANGE     | GREEN      |
| 71  | WHITE       | BLACK      | ORANGE     | BLUE       |
| 72  | WHITE       | BLACK      | ORANGE     | VIOLET     |
| 73  | WHITE       | BLACK      | ORANGE     | GREY       |
| 74  | WHITE       | BLACK      | YELLOW     | GREEN      |
| 75  | WHITE       | BLACK      | YELLOW     | BLUE       |
| 76  | WHITE       | BLACK      | YELLOW     | VIOLET     |
| 77  | WHITE       | BLACK      | YELLOW     | GREY       |
| 78  | WHITE       | BLACK      | GREEN      | BLUE       |
| 79  | WHITE       | BLACK      | GREEN      | VIOLET     |
| 80  | WHITE       | BLACK      | GREEN      | GREY       |
| 81  | WHITE       | BLACK      | BLUE       | VIOLET     |
| 82  | WHITE       | BLACK      | BLUE       | GREY       |
| 83  | WHITE       | BLACK      | VIOLET     | GREY       |
| 84  | WHITE       | BROWN      | RED        | ORANGE     |
| 85  | WHITE       | BROWN      | RED        | YELLOW     |
| 86  | WHITE       | BROWN      | RED        | GREEN      |
| 87  | WHITE       | BROWN      | RED        | BLUE       |
| 88  | WHITE       | BROWN      | RED        | VIOLET     |
| 89  | WHITE       | BROWN      | RED        | GREY       |
| 90  | WHITE       | BROWN      | ORANGE     | YELLOW     |
| 91  | WHITE       | BROWN      | ORANGE     | GREEN      |
| 92  | WHITE       | BROWN      | ORANGE     | BLUE       |
| 93  | WHITE       | BROWN      | ORANGE     | VIOLET     |
| 94  | WHITE       | BROWN      | ORANGE     | GREY       |
| 95  | WHITE       | BROWN      | YELLOW     | GREEN      |
| 96  | WHITE       | BROWN      | YELLOW     | BLUE       |
| 97  | WHITE       | BROWN      | YELLOW     | VIOLET     |
| 98  | WHITE       | BROWN      | YELLOW     | GREY       |
| 99  | WHITE       | BROWN      | GREEN      | BLUE       |
| 100 | WHITE       | BROWN      | GREEN      | VIOLET     |

# PART NUMBER CROSS REFERENCE

Mil-Spec / Amphenol

| Mil-Spec       | Amphenol       | Mil-Spec       | Amphenol       | Mil-Spec       | Amphenol       |
|----------------|----------------|----------------|----------------|----------------|----------------|
| M83513/01-AC   | 100RC09P-B     | M83513/03-A15C | 100RN09P-4F1CB | M83513/03-C12N | 100RC21P-4F6BB |
| M83513/01-AN   | 100RN09P-B     | M83513/03-A15N | 100RN09P-4F1CB | M83513/03-C13C | 100RC21P-4E1CB |
| M83513/01-BC   | 100RC15P-B     | M83513/03-A16C | 100RC09P-4F6CB | M83513/03-C13N | 100RN21P-4E1CB |
| M83513/01-BN   | 100RN15P-B     | M83513/03-A16N | 100RN09P-4F6CB | M83513/03-C14C | 100RC21P-4E6CB |
| M83513/01-CC   | 100RC21P-B     | M83513/03-B01C | 100RC15P-4E1AB | M83513/03-C14N | 100RN21P-4E6CB |
| M83513/01-CN   | 100RN21P-B     | M83513/03-B01N | 100RN15P-4E1AB | M83513/03-C15C | 100RC21P-4F1CB |
| M83513/01-DC   | 100RC25P-B     | M83513/03-B02C | 100RC15P-4E1BB | M83513/03-C15N | 100RN21P-4F1CB |
| M83513/01-DN   | 100RN25P-B     | M83513/03-B02N | 100RN15P-4E1BB | M83513/03-C16C | 100RC21P-4F6CB |
| M83513/01-EC   | 100RC31P-B     | M83513/03-B03C | 100RC15P-4E6AB | M83513/03-C16N | 100RN21P-4F6CB |
| M83513/01-EN   | 100RN31P-B     | M83513/03-B03N | 100RN15P-4E6AB | M83513/03-D01C | 100RC25P-4E1AB |
| M83513/01-FC   | 100RC37P-B     | M83513/03-B04C | 100RC15P-4E6BB | M83513/03-D01N | 100RN25P-4E1AB |
| M83513/01-FN   | 100RN37P-B     | M83513/03-B04N | 100RN15P-4E6BB | M83513/03-D02C | 100RC25P-4E1BB |
| M83513/01-GC   | 100RC51P-B     | M83513/03-B05C | 100RC15P-5L4DB | M83513/03-D02N | 100RN25P-4E1BB |
| M83513/01-GN   | 100RN51P-B     | M83513/03-B05N | 100RN15P-5L4DB | M83513/03-D03C | 100RC25P-4E6AB |
| M83513/01-HC   | 100RC100P-B    | M83513/03-B06C | 100RC15P-5L4EB | M83513/03-D03N | 100RN25P-4E6AB |
| M83513/01-HN   | 100RN100P-B    | M83513/03-B06N | 100RN15P-5L4EB | M83513/03-D04C | 100RC25P-4E6BB |
| M83513/02-AC   | 100RC09S-B     | M83513/03-B07C | 100RC15P-5L3DB | M83513/03-D04N | 100RN25P-4E6BB |
| M83513/02-AN   | 100RN09S-B     | M83513/03-B07N | 100RN15P-5L3DB | M83513/03-D05C | 100RC25P-5L4DB |
| M83513/02-BC   | 100RC15S-B     | M83513/03-B08C | 100RC15P-5L3EB | M83513/03-D05N | 100RN25P-5L4DB |
| M83513/02-BN   | 100RN15S-B     | M83513/03-B08N | 100RN15P-5L3EB | M83513/03-D06C | 100RC25P-5L4EB |
| M83513/02-CC   | 100RC21S-B     | M83513/03-B09C | 100RC15P-4F1AB | M83513/03-D06N | 100RN25P-5L4EB |
| M83513/02-CN   | 100RN21S-B     | M83513/03-B09N | 100RN15P-4F1AB | M83513/03-D07C | 100RC25P-5L3DB |
| M83513/02-DC   | 100RC25S-B     | M83513/03-B10C | 100RC15P-4F1BB | M83513/03-D07N | 100RN25P-5L3DB |
| M83513/02-DN   | 100RN25S-B     | M83513/03-B10N | 100RN15P-4F1BB | M83513/03-D08C | 100RC25P-5L3EB |
| M83513/02-EC   | 100RC31S-B     | M83513/03-B11C | 100RC15P-4F6AB | M83513/03-D08N | 100RN25P-5L3EB |
| M83513/02-EN   | 100RN31S-B     | M83513/03-B11N | 100RN15P-4F6AB | M83513/03-D09C | 100RC25P-4F1AB |
| M83513/02-FC   | 100RC37S-B     | M83513/03-B12C | 100RC15P-4F6BB | M83513/03-D09N | 100RN25P-4F1AB |
| M83513/02-FN   | 100RN37S-B     | M83513/03-B12N | 100RC15P-4F6BB | M83513/03-D10C | 100RC25P-4F1BB |
| M83513/02-GC   | 100RC51S-B     | M83513/03-B13C | 100RC15P-4E1CB | M83513/03-D10N | 100RN25P-4F1BB |
| M83513/02-GN   | 100RN51S-B     | M83513/03-B13N | 100RN15P-4E1CB | M83513/03-D11C | 100RC25P-4F6AB |
| M83513/02-HC   | 100RC100S-B    | M83513/03-B14C | 100RC15P-4E6CB | M83513/03-D11N | 100RN25P-4F6AB |
| M83513/02-HN   | 100RN100S-B    | M83513/03-B14N | 100RN15P-4E6CB | M83513/03-D12C | 100RC25P-4F6BB |
| M83513/03-A01C | 100RC09P-4E1AB | M83513/03-B15C | 100RC15P-4F1CB | M83513/03-D12N | 100RN25P-4F6BB |
| M83513/03-A01N | 100RN09P-4E1AB | M83513/03-B15N | 100RN15P-4F1CB | M83513/03-D13C | 100RC25P-4E1CB |
| M83513/03-A02C | 100RC09P-4E1BB | M83513/03-B16C | 100RC15P-4F6CB | M83513/03-D13N | 100RN25P-4E1CB |
| M83513/03-A02N | 100RN09P-4E1BB | M83513/03-B16N | 100RN15P-4F6CB | M83513/03-D14C | 100RC25P-4E6CB |
| M83513/03-A03C | 100RC09P-4E6AB | M83513/03-C01C | 100RC21P-4E1AB | M83513/03-D14N | 100RN25P-4E6CB |
| M83513/03-A03N | 100RN09P-4E6AB | M83513/03-C01N | 100RN21P-4E1AB | M83513/03-D15C | 100RC25P-4F1CB |
| M83513/03-A04C | 100RC09P-4E6BB | M83513/03-C02C | 100RC21P-4E1BB | M83513/03-D15N | 100RN25P-4F1CB |
| M83513/03-A04N | 100RN09P-4E6BB | M83513/03-C02N | 100RN21P-4E1BB | M83513/03-D16C | 100RC25P-4F6CB |
| M83513/03-A05C | 100RC09P-5L4DB | M83513/03-C03C | 100RC21P-4E6AB | M83513/03-D16N | 100RN25P-4F6CB |
| M83513/03-A05N | 100RN09P-5L4DB | M83513/03-C03N | 100RN21P-4E6AB | M83513/03-E01C | 100RC31P-4E1AB |
| M83513/03-A06C | 100RC09P-5L4EB | M83513/03-C04C | 100RC21P-4E6BB | M83513/03-E01N | 100RN31P-4E1AB |
| M83513/03-A06N | 100RN09P-5L4EB | M83513/03-C04N | 100RN21P-4E6BB | M83513/03-E02C | 100RC31P-4E1BB |
| M83513/03-A07C | 100RC09P-5L3DB | M83513/03-C05C | 100RC21P-5L4DB | M83513/03-E02N | 100RN31P-4E1BB |
| M83513/03-A07N | 100RN09P-5L3DB | M83513/03-C05N | 100RN21P-5L4DB | M83513/03-E03C | 100RC31P-4E6AB |
| M83513/03-A08C | 100RC09P-5L3EB | M83513/03-C06C | 100RC21P-5L4EB | M83513/03-E03N | 100RN31P-4E6AB |
| M83513/03-A08N | 100RN09P-5L3EB | M83513/03-C06N | 100RN21P-5L4EB | M83513/03-E04C | 100RC31P-4E6BB |
| M83513/03-A09C | 100RC09P-4F1AB | M83513/03-C07C | 100RC21P-5L3DB | M83513/03-E04N | 100RN31P-4E6BB |
| M83513/03-A09N | 100RN09P-4F1AB | M83513/03-C07N | 100RN21P-5L3DB | M83513/03-E05C | 100RC31P-5L4DB |
| M83513/03-A10C | 100RC09P-4F1BB | M83513/03-C08C | 100RC21P-5L3EB | M83513/03-E05N | 100RN31P-5L4DB |
| M83513/03-A10N | 100RN09P-4F1BB | M83513/03-C08N | 100RN21P-5L3EB | M83513/03-E06C | 100RC31P-5L4EB |
| M83513/03-A11C | 100RC09P-4F6AB | M83513/03-C09C | 100RC21P-4F1AB | M83513/03-E06N | 100RN31P-5L4EB |
| M83513/03-A11N | 100RN09P-4F6AB | M83513/03-C09N | 100RN21P-4F1AB | M83513/03-E07C | 100RC31P-5L3DB |
| M83513/03-A12C | 100RC09P-4F6BB | M83513/03-C10C | 100RC21P-4F1BB | M83513/03-E07N | 100RN31P-5L3DB |
| M83513/03-A12N | 100RN09P-4F6BB | M83513/03-C10N | 100RN21P-4F1BB | M83513/03-E08C | 100RC31P-5L3EB |
| M83513/03-A13C | 100RC09P-4E1CB | M83513/03-C11C | 100RC21P-4F6AB | M83513/03-E08N | 100RN31P-5L3EB |
| M83513/03-A13N | 100RN09P-4E1CB | M83513/03-C11N | 100RN21P-4F6AB | M83513/03-E09C | 100RC31P-4F1AB |
| M83513/03-A14C | 100RC09P-4E6CB | M83513/03-C12C | 100RC21P-4F6BB | M83513/03-E09N | 100RN31P-4F1AB |

| Mil-Spec       | Amphenol       | Mil-Spec       | Amphenol        | Mil-Spec       | Amphenol       |
|----------------|----------------|----------------|-----------------|----------------|----------------|
| M83513/03-E10C | 100RC31P-4F1BB | M83513/03-G07N | 100RN51P-5L3DB  | M83513/04-A05C | 100RC09S-5L4DB |
| M83513/03-E10N | 100RN31P-4F1BB | M83513/03-G08C | 100RC51P-5L3EB  | M83513/04-A05N | 100RN09S-5L4DB |
| M83513/03-E11C | 100RC31P-4F6AB | M83513/03-G08N | 100RN51P-5L3EB  | M83513/04-A06C | 100RC09S-5L4EB |
| M83513/03-E11N | 100RN31P-4F6AB | M83513/03-G09C | 100RC51P-4F1AB  | M83513/04-A06N | 100RN09S-5L4EB |
| M83513/03-E12C | 100RC31P-4F6BB | M83513/03-G09N | 100RN51P-4F1AB  | M83513/04-A07C | 100RC09S-5L3DB |
| M83513/03-E12N | 100RC31P-4F6BB | M83513/03-G10C | 100RC51P-4F1BB  | M83513/04-A07N | 100RN09S-5L3DB |
| M83513/03-E13C | 100RC31P-4E1CB | M83513/03-G10N | 100RN51P-4F1BB  | M83513/04-A08C | 100RC09S-5L3EB |
| M83513/03-E13N | 100RN31P-4E1CB | M83513/03-G11C | 100RC51P-4F6AB  | M83513/04-A08N | 100RN09S-5L3EB |
| M83513/03-E14C | 100RC31P-4E6CB | M83513/03-G11N | 100RN51P-4F6AB  | M83513/04-A09C | 100RC09S-4F1AB |
| M83513/03-E14N | 100RN31P-4E6CB | M83513/03-G12C | 100RC51P-4F6BB  | M83513/04-A09N | 100RN09S-4F1AB |
| M83513/03-E15C | 100RC31P-4F1CB | M83513/03-G12N | 100RC51P-4F6BB  | M83513/04-A10C | 100RC09S-4F1BB |
| M83513/03-E15N | 100RN31P-4F1CB | M83513/03-G13C | 100RC51P-4E1CB  | M83513/04-A10N | 100RN09S-4F1BB |
| M83513/03-E16C | 100RC31P-4F6CB | M83513/03-G13N | 100RN51P-4E1CB  | M83513/04-A11C | 100RC09S-4F6AB |
| M83513/03-E16N | 100RN31P-4F6CB | M83513/03-G14C | 100RC51P-4E6CB  | M83513/04-A11N | 100RN09S-4F6AB |
| M83513/03-F01C | 100RC37P-4E1AB | M83513/03-G14N | 100RN51P-4E6CB  | M83513/04-A12C | 100RC09S-4F6BB |
| M83513/03-F01N | 100RN37P-4E1AB | M83513/03-G15C | 100RC51P-4F1CB  | M83513/04-A12N | 100RC09S-4F6BB |
| M83513/03-F02C | 100RC37P-4E1BB | M83513/03-G15N | 100RN51P-4F1CB  | M83513/04-A13C | 100RC09S-4E1CB |
| M83513/03-F02N | 100RN37P-4E1BB | M83513/03-G16C | 100RC51P-4F6CB  | M83513/04-A13N | 100RN09S-4E1CB |
| M83513/03-F03C | 100RC37P-4E6AB | M83513/03-G16N | 100RN51P-4F6CB  | M83513/04-A14C | 100RC09S-4E6CB |
| M83513/03-F03N | 100RN37P-4E6AB | M83513/03-H01C | 100RC100P-4E1AB | M83513/04-A14N | 100RN09S-4E6CB |
| M83513/03-F04C | 100RC37P-4E6BB | M83513/03-H01N | 100RN100P-4E1AB | M83513/04-A15C | 100RC09S-4F1CB |
| M83513/03-F04N | 100RN37P-4E6BB | M83513/03-H02C | 100RC100P-4E1BB | M83513/04-A15N | 100RN09S-4F1CB |
| M83513/03-F05C | 100RC37P-5L4DB | M83513/03-H02N | 100RN100P-4E1BB | M83513/04-A16C | 100RC09S-4F6CB |
| M83513/03-F05N | 100RN37P-5L4DB | M83513/03-H03C | 100RC100P-4E6AB | M83513/04-A16N | 100RN09S-4F6CB |
| M83513/03-F06C | 100RC37P-5L4EB | M83513/03-H03N | 100RN100P-4E6AB | M83513/04-B01C | 100RC15S-4E1AB |
| M83513/03-F06N | 100RN37P-5L4EB | M83513/03-H04C | 100RC100P-4E6BB | M83513/04-B01N | 100RN15S-4E1AB |
| M83513/03-F07C | 100RC37P-5L3DB | M83513/03-H04N | 100RN100P-4E6BB | M83513/04-B02C | 100RC15S-4E1BB |
| M83513/03-F07N | 100RN37P-5L3DB | M83513/03-H05C | 100RC100P-5L4DB | M83513/04-B02N | 100RN15S-4E1BB |
| M83513/03-F08C | 100RC37P-5L3EB | M83513/03-H05N | 100RN100P-5L4DB | M83513/04-B03C | 100RC15S-4E6AB |
| M83513/03-F08N | 100RN37P-5L3EB | M83513/03-H06C | 100RC100P-5L4EB | M83513/04-B03N | 100RN15S-4E6AB |
| M83513/03-F09C | 100RC37P-4F1AB | M83513/03-H06N | 100RN100P-5L4EB | M83513/04-B04C | 100RC15S-4E6BB |
| M83513/03-F09N | 100RN37P-4F1AB | M83513/03-H07C | 100RC100P-5L3DB | M83513/04-B04N | 100RN15S-4E6BB |
| M83513/03-F10C | 100RC37P-4F1BB | M83513/03-H07N | 100RN100P-5L3DB | M83513/04-B05C | 100RC15S-5L4DB |
| M83513/03-F10N | 100RN37P-4F1BB | M83513/03-H08C | 100RC100P-5L3EB | M83513/04-B05N | 100RN15S-5L4DB |
| M83513/03-F11C | 100RC37P-4F6AB | M83513/03-H08N | 100RN100P-5L3EB | M83513/04-B06C | 100RC15S-5L4EB |
| M83513/03-F11N | 100RN37P-4F6AB | M83513/03-H09C | 100RC100P-4F1AB | M83513/04-B06N | 100RN15S-5L4EB |
| M83513/03-F12C | 100RC37P-4F6BB | M83513/03-H09N | 100RN100P-4F1AB | M83513/04-B07C | 100RC15S-5L3DB |
| M83513/03-F12N | 100RC37P-4F6BB | M83513/03-H10C | 100RC100P-4F1BB | M83513/04-B07N | 100RN15S-5L3DB |
| M83513/03-F13C | 100RC37P-4E1CB | M83513/03-H10N | 100RN100P-4F1BB | M83513/04-B08C | 100RC15S-5L3EB |
| M83513/03-F13N | 100RN37P-4E1CB | M83513/03-H11C | 100RC100P-4F6AB | M83513/04-B08N | 100RN15S-5L3EB |
| M83513/03-F14C | 100RC37P-4E6CB | M83513/03-H11N | 100RN100P-4F6AB | M83513/04-B09C | 100RC15S-4F1AB |
| M83513/03-F14N | 100RN37P-4E6CB | M83513/03-H12C | 100RC100P-4F6BB | M83513/04-B09N | 100RN15S-4F1AB |
| M83513/03-F15C | 100RC37P-4F1CB | M83513/03-H12N | 100RC100P-4F6BB | M83513/04-B10C | 100RC15S-4F1BB |
| M83513/03-F15N | 100RN37P-4F1CB | M83513/03-H13C | 100RC100P-4E1CB | M83513/04-B10N | 100RN15S-4F1BB |
| M83513/03-F16C | 100RC37P-4F6CB | M83513/03-H13N | 100RN100P-4E1CB | M83513/04-B11C | 100RC15S-4F6AB |
| M83513/03-F16N | 100RN37P-4F6CB | M83513/03-H14C | 100RC100P-4E6CB | M83513/04-B11N | 100RN15S-4F6AB |
| M83513/03-G01C | 100RC51P-4E1AB | M83513/03-H14N | 100RN100P-4E6CB | M83513/04-B12C | 100RC15S-4F6BB |
| M83513/03-G01N | 100RN51P-4E1AB | M83513/03-H15C | 100RC100P-4F1CB | M83513/04-B12N | 100RC15S-4F6BB |
| M83513/03-G02C | 100RC51P-4E1BB | M83513/03-H15N | 100RN100P-4F1CB | M83513/04-B13C | 100RC15S-4E1CB |
| M83513/03-G02N | 100RN51P-4E1BB | M83513/03-H16C | 100RC100P-4F6CB | M83513/04-B13N | 100RN15S-4E1CB |
| M83513/03-G03C | 100RC51P-4E6AB | M83513/03-H16N | 100RN100P-4F6CB | M83513/04-B14C | 100RC15S-4E6CB |
| M83513/03-G03N | 100RN51P-4E6AB | M83513/04-A01C | 100RC09S-4E1AB  | M83513/04-B14N | 100RN15S-4E6CB |
| M83513/03-G04C | 100RC51P-4E6BB | M83513/04-A01N | 100RN09S-4E1AB  | M83513/04-B15C | 100RC15S-4F1CB |
| M83513/03-G04N | 100RN51P-4E6BB | M83513/04-A02C | 100RC09S-4E1BB  | M83513/04-B15N | 100RN15S-4F1CB |
| M83513/03-G05C | 100RC51P-5L4DB | M83513/04-A02N | 100RN09S-4E1BB  | M83513/04-B16C | 100RC15S-4F6CB |
| M83513/03-G05N | 100RN51P-5L4DB | M83513/04-A03C | 100RC09S-4E6AB  | M83513/04-B16N | 100RN15S-4F6CB |
| M83513/03-G06C | 100RC51P-5L4EB | M83513/04-A03N | 100RN09S-4E6AB  | M83513/04-C01C | 100RC21S-4E1AB |
| M83513/03-G06N | 100RN51P-5L4EB | M83513/04-A04C | 100RC09S-4E6BB  | M83513/04-C01N | 100RN21S-4E1AB |
| M83513/03-G07C | 100RC51P-5L3DB | M83513/04-A04N | 100RN09S-4E6BB  | M83513/04-C02C | 100RC21S-4E1BB |

# PART NUMBER CROSS REFERENCE

Mil-Spec / Amphenol  
(Continued)

| Mil-Spec       | Amphenol       | Mil-Spec       | Amphenol       | Mil-Spec       | Amphenol        |
|----------------|----------------|----------------|----------------|----------------|-----------------|
| M83513/04-C02N | 100RN21S-4E1BB | M83513/04-D16C | 100RC25S-4F6CB | M83513/04-F13N | 100RN37S-4E1CB  |
| M83513/04-C03C | 100RC21S-4E6AB | M83513/04-D16N | 100RN25S-4F6CB | M83513/04-F14C | 100RC37S-4E6CB  |
| M83513/04-C03N | 100RN21S-4E6AB | M83513/04-E01C | 100RC31S-4E1AB | M83513/04-F14N | 100RN37S-4E6CB  |
| M83513/04-C04C | 100RC21S-4E6BB | M83513/04-E01N | 100RN31S-4E1AB | M83513/04-F15C | 100RC37S-4F1CB  |
| M83513/04-C04N | 100RN21S-4E6BB | M83513/04-E02C | 100RC31S-4E1BB | M83513/04-F15N | 100RN37S-4F1CB  |
| M83513/04-C05C | 100RC21S-5L4DB | M83513/04-E02N | 100RN31S-4E1BB | M83513/04-F16C | 100RC37S-4F6CB  |
| M83513/04-C05N | 100RN21S-5L4DB | M83513/04-E03C | 100RC31S-4E6AB | M83513/04-F16N | 100RN37S-4F6CB  |
| M83513/04-C06C | 100RC21S-5L4EB | M83513/04-E03N | 100RN31S-4E6AB | M83513/04-G01C | 100RC51S-4E1AB  |
| M83513/04-C06N | 100RN21S-5L4EB | M83513/04-E04C | 100RC31S-4E6BB | M83513/04-G01N | 100RN51S-4E1AB  |
| M83513/04-C07C | 100RC21S-5L3DB | M83513/04-E04N | 100RN31S-4E6BB | M83513/04-G02C | 100RC51S-4E1BB  |
| M83513/04-C07N | 100RN21S-5L3DB | M83513/04-E05C | 100RC31S-5L4DB | M83513/04-G02N | 100RN51S-4E1BB  |
| M83513/04-C08C | 100RC21S-5L3EB | M83513/04-E05N | 100RN31S-5L4DB | M83513/04-G03C | 100RC51S-4E6AB  |
| M83513/04-C08N | 100RN21S-5L3EB | M83513/04-E06C | 100RC31S-5L4EB | M83513/04-G03N | 100RN51S-4E6AB  |
| M83513/04-C09C | 100RC21S-4F1AB | M83513/04-E06N | 100RN31S-5L4EB | M83513/04-G04C | 100RC51S-4E6BB  |
| M83513/04-C09N | 100RN21S-4F1AB | M83513/04-E07C | 100RC31S-5L3DB | M83513/04-G04N | 100RN51S-4E6BB  |
| M83513/04-C10C | 100RC21S-4F1BB | M83513/04-E07N | 100RN31S-5L3DB | M83513/04-G05C | 100RC51S-5L4DB  |
| M83513/04-C10N | 100RN21S-4F1BB | M83513/04-E08C | 100RC31S-5L3EB | M83513/04-G05N | 100RN51S-5L4DB  |
| M83513/04-C11C | 100RC21S-4F6AB | M83513/04-E08N | 100RN31S-5L3EB | M83513/04-G06C | 100RC51S-5L4EB  |
| M83513/04-C11N | 100RN21S-4F6AB | M83513/04-E09C | 100RC31S-4F1AB | M83513/04-G06N | 100RN51S-5L4EB  |
| M83513/04-C12C | 100RC21S-4F6BB | M83513/04-E09N | 100RN31S-4F1AB | M83513/04-G07C | 100RC51S-5L3DB  |
| M83513/04-C12N | 100RC21S-4F6BB | M83513/04-E10C | 100RC31S-4F1BB | M83513/04-G07N | 100RN51S-5L3DB  |
| M83513/04-C13C | 100RC21S-4E1CB | M83513/04-E10N | 100RN31S-4F1BB | M83513/04-G08C | 100RC51S-5L3EB  |
| M83513/04-C13N | 100RN21S-4E1CB | M83513/04-E11C | 100RC31S-4F6AB | M83513/04-G08N | 100RN51S-5L3EB  |
| M83513/04-C14C | 100RC21S-4E6CB | M83513/04-E11N | 100RN31S-4F6AB | M83513/04-G09C | 100RC51S-4F1AB  |
| M83513/04-C14N | 100RN21S-4E6CB | M83513/04-E12C | 100RC31S-4F6BB | M83513/04-G09N | 100RN51S-4F1AB  |
| M83513/04-C15C | 100RC21S-4F1CB | M83513/04-E12N | 100RC31S-4F6BB | M83513/04-G10C | 100RC51S-4F1BB  |
| M83513/04-C15N | 100RN21S-4F1CB | M83513/04-E13C | 100RC31S-4E1CB | M83513/04-G10N | 100RN51S-4F1BB  |
| M83513/04-C16C | 100RC21S-4F6CB | M83513/04-E13N | 100RN31S-4E1CB | M83513/04-G11C | 100RC51S-4F6AB  |
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| M83513/04-D01C | 100RC25S-4E1AB | M83513/04-E14N | 100RN31S-4E6CB | M83513/04-G12C | 100RC51S-4F6BB  |
| M83513/04-D01N | 100RN25S-4E1AB | M83513/04-E15C | 100RC31S-4F1CB | M83513/04-G12N | 100RC51S-4F6BB  |
| M83513/04-D02C | 100RC25S-4E1BB | M83513/04-E15N | 100RN31S-4F1CB | M83513/04-G13C | 100RC51S-4E1CB  |
| M83513/04-D02N | 100RN25S-4E1BB | M83513/04-E16C | 100RC31S-4F6CB | M83513/04-G13N | 100RN51S-4E1CB  |
| M83513/04-D03C | 100RC25S-4E6AB | M83513/04-E16N | 100RN31S-4F6CB | M83513/04-G14C | 100RC51S-4E6CB  |
| M83513/04-D03N | 100RN25S-4E6AB | M83513/04-F01C | 100RC37S-4E1AB | M83513/04-G14N | 100RN51S-4E6CB  |
| M83513/04-D04C | 100RC25S-4E6BB | M83513/04-F01N | 100RN37S-4E1AB | M83513/04-G15C | 100RC51S-4F1CB  |
| M83513/04-D04N | 100RN25S-4E6BB | M83513/04-F02C | 100RC37S-4E1BB | M83513/04-G15N | 100RN51S-4F1CB  |
| M83513/04-D05C | 100RC25S-5L4DB | M83513/04-F02N | 100RN37S-4E1BB | M83513/04-G16C | 100RC51S-4F6CB  |
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| M83513/04-D07C | 100RC25S-5L3DB | M83513/04-F04N | 100RN37S-4E6BB | M83513/04-H02C | 100RC100S-4E1BB |
| M83513/04-D07N | 100RN25S-5L3DB | M83513/04-F05C | 100RC37S-5L4DB | M83513/04-H02N | 100RN100S-4E1BB |
| M83513/04-D08C | 100RC25S-5L3EB | M83513/04-F05N | 100RN37S-5L4DB | M83513/04-H03C | 100RC100S-4E6AB |
| M83513/04-D08N | 100RN25S-5L3EB | M83513/04-F06C | 100RC37S-5L4EB | M83513/04-H03N | 100RN100S-4E6AB |
| M83513/04-D09C | 100RC25S-4F1AB | M83513/04-F06N | 100RN37S-5L4EB | M83513/04-H04C | 100RC100S-4E6BB |
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| M83513/04-D10N | 100RN25S-4F1BB | M83513/04-F08C | 100RC37S-5L3EB | M83513/04-H05N | 100RN100S-5L4DB |
| M83513/04-D11C | 100RC25S-4F6AB | M83513/04-F08N | 100RN37S-5L3EB | M83513/04-H06C | 100RC100S-5L4EB |
| M83513/04-D11N | 100RN25S-4F6AB | M83513/04-F09C | 100RC37S-4F1AB | M83513/04-H06N | 100RN100S-5L4EB |
| M83513/04-D12C | 100RC25S-4F6BB | M83513/04-F09N | 100RN37S-4F1AB | M83513/04-H07C | 100RC100S-5L3DB |
| M83513/04-D12N | 100RC25S-4F6BB | M83513/04-F10C | 100RC37S-4F1BB | M83513/04-H07N | 100RN100S-5L3DB |
| M83513/04-D13C | 100RC25S-4E1CB | M83513/04-F10N | 100RN37S-4F1BB | M83513/04-H08C | 100RC100S-5L3EB |
| M83513/04-D13N | 100RN25S-4E1CB | M83513/04-F11C | 100RC37S-4F6AB | M83513/04-H08N | 100RN100S-5L3EB |
| M83513/04-D14C | 100RC25S-4E6CB | M83513/04-F11N | 100RN37S-4F6AB | M83513/04-H09C | 100RC100S-4F1AB |
| M83513/04-D14N | 100RN25S-4E6CB | M83513/04-F12C | 100RC37S-4F6BB | M83513/04-H09N | 100RN100S-4F1AB |
| M83513/04-D15C | 100RC25S-4F1CB | M83513/04-F12N | 100RC37S-4F6BB | M83513/04-H10C | 100RC100S-4F1BB |
| M83513/04-D15N | 100RN25S-4F1CB | M83513/04-F13C | 100RC37S-4E1CB | M83513/04-H10N | 100RN100S-4F1BB |

| Mil-Spec       | Amphenol        | Mil-Spec      | Amphenol      | Mil-Spec      | Amphenol      |
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| M83513/04-H11C | 100RC100S-4F6AB | M83513/08-B08 | 101R15P-5L3EB | M83513/08-F03 | 101R37P-4E6AB |
| M83513/04-H11N | 100RN100S-4F6AB | M83513/08-B09 | 101R15P-4F1AB | M83513/08-F04 | 101R37P-4E6BB |
| M83513/04-H12C | 100RC100S-4F6BB | M83513/08-B10 | 101R15P-4F1BB | M83513/08-F05 | 101R37P-5L4DB |
| M83513/04-H12N | 100RC100S-4F6BB | M83513/08-B11 | 101R15P-4F6AB | M83513/08-F06 | 101R37P-5L4EB |
| M83513/04-H13C | 100RC100S-4E1CB | M83513/08-B12 | 101R15P-4F6BB | M83513/08-F07 | 101R37P-5L3DB |
| M83513/04-H13N | 100RN100S-4E1CB | M83513/08-B13 | 101R15P-4E1CB | M83513/08-F08 | 101R37P-5L3EB |
| M83513/04-H14C | 100RC100S-4E6CB | M83513/08-B14 | 101R15P-4E6CB | M83513/08-F09 | 101R37P-4F1AB |
| M83513/04-H14N | 100RN100S-4E6CB | M83513/08-B15 | 101R15P-4F1CB | M83513/08-F10 | 101R37P-4F1BB |
| M83513/04-H15C | 100RC100S-4F1CB | M83513/08-B16 | 101R15P-4F6CB | M83513/08-F11 | 101R37P-4F6AB |
| M83513/04-H15N | 100RN100S-4F1CB | M83513/08-C01 | 101R21P-4E1AB | M83513/08-F12 | 101R37P-4F6BB |
| M83513/04-H16C | 100RC100S-4F6CB | M83513/08-C02 | 101R21P-4E1BB | M83513/08-F13 | 101R37P-4E1CB |
| M83513/04-H16N | 100RN100S-4F6CB | M83513/08-C03 | 101R21P-4E6AB | M83513/08-F14 | 101R37P-4E6CB |
| M83513/05-02   | HM05-02         | M83513/08-C04 | 101R21P-4E6BB | M83513/08-F15 | 101R37P-4F1CB |
| M83513/05-03   | HM05-03         | M83513/08-C05 | 101R21P-5L4DB | M83513/08-F16 | 101R37P-4F6CB |
| M83513/05-05   | HM05-05         | M83513/08-C06 | 101R21P-5L4EB | M83513/08-G01 | 101R51P-4E1AB |
| M83513/05-06   | HM05-06         | M83513/08-C07 | 101R21P-5L3DB | M83513/08-G02 | 101R51P-4E1BB |
| M83513/05-07   | HM05-07         | M83513/08-C08 | 101R21P-5L3EB | M83513/08-G03 | 101R51P-4E6AB |
| M83513/05-12   | HM05-12         | M83513/08-C09 | 101R21P-4F1AB | M83513/08-G04 | 101R51P-4E6BB |
| M83513/05-13   | HM05-13         | M83513/08-C10 | 101R21P-4F1BB | M83513/08-G05 | 101R51P-5L4DB |
| M83513/05-15   | HM05-15         | M83513/08-C11 | 101R21P-4F6AB | M83513/08-G06 | 101R51P-5L4EB |
| M83513/05-16   | HM05-16         | M83513/08-C12 | 101R21P-4F6BB | M83513/08-G07 | 101R51P-5L3DB |
| M83513/05-17   | HM05-17         | M83513/08-C13 | 101R21P-4E1CB | M83513/08-G08 | 101R51P-5L3EB |
| M83513/06-A    | 101R09P-B       | M83513/08-C14 | 101R21P-4E6CB | M83513/08-G09 | 101R51P-4F1AB |
| M83513/06-B    | 101R15P-B       | M83513/08-C15 | 101R21P-4F1CB | M83513/08-G10 | 101R51P-4F1BB |
| M83513/06-C    | 101R21P-B       | M83513/08-C16 | 101R21P-4F6CB | M83513/08-G11 | 101R51P-4F6AB |
| M83513/06-D    | 101R25P-B       | M83513/08-D01 | 101R25P-4E1AB | M83513/08-G12 | 101R51P-4F6BB |
| M83513/06-E    | 101R31P-B       | M83513/08-D02 | 101R25P-4E1BB | M83513/08-G13 | 101R51P-4E1CB |
| M83513/06-F    | 101R37P-B       | M83513/08-D03 | 101R25P-4E6AB | M83513/08-G14 | 101R51P-4E6CB |
| M83513/06-G    | 101R51P-B       | M83513/08-D04 | 101R25P-4E6BB | M83513/08-G15 | 101R51P-4F1CB |
| M83513/07-A    | 101R09S-B       | M83513/08-D05 | 101R25P-5L4DB | M83513/08-G16 | 101R51P-4F6CB |
| M83513/07-B    | 101R15S-B       | M83513/08-D06 | 101R25P-5L4EB | M83513/09-A01 | 101R09S-4E1AB |
| M83513/07-C    | 101R21S-B       | M83513/08-D07 | 101R25P-5L3DB | M83513/09-A02 | 101R09S-4E1BB |
| M83513/07-D    | 101R25S-B       | M83513/08-D08 | 101R25P-5L3EB | M83513/09-A03 | 101R09S-4E6AB |
| M83513/07-E    | 101R31S-B       | M83513/08-D09 | 101R25P-4F1AB | M83513/09-A04 | 101R09S-4E6BB |
| M83513/07-F    | 101R37S-B       | M83513/08-D10 | 101R25P-4F1BB | M83513/09-A05 | 101R09S-5L4DB |
| M83513/07-G    | 101R51S-B       | M83513/08-D11 | 101R25P-4F6AB | M83513/09-A06 | 101R09S-5L4EB |
| M83513/08-A01  | 101R09P-4E1AB   | M83513/08-D12 | 101R25P-4F6BB | M83513/09-A07 | 101R09S-5L3DB |
| M83513/08-A02  | 101R09P-4E1BB   | M83513/08-D13 | 101R25P-4E1CB | M83513/09-A08 | 101R09S-5L3EB |
| M83513/08-A03  | 101R09P-4E6AB   | M83513/08-D14 | 101R25P-4E6CB | M83513/09-A09 | 101R09S-4F1AB |
| M83513/08-A04  | 101R09P-4E6BB   | M83513/08-D15 | 101R25P-4F1CB | M83513/09-A10 | 101R09S-4F1BB |
| M83513/08-A05  | 101R09P-5L4DB   | M83513/08-D16 | 101R25P-4F6CB | M83513/09-A11 | 101R09S-4E6AB |
| M83513/08-A06  | 101R09P-5L4EB   | M83513/08-E01 | 101R31P-4E1AB | M83513/09-A12 | 101R09S-4F6BB |
| M83513/08-A07  | 101R09P-5L3DB   | M83513/08-E02 | 101R31P-4E1BB | M83513/09-A13 | 101R09S-4E1CB |
| M83513/08-A08  | 101R09P-5L3EB   | M83513/08-E03 | 101R31P-4E6AB | M83513/09-A14 | 101R09S-4E6CB |
| M83513/08-A09  | 101R09P-4F1AB   | M83513/08-E04 | 101R31P-4E6BB | M83513/09-A15 | 101R09S-4F1CB |
| M83513/08-A10  | 101R09P-4F1BB   | M83513/08-E05 | 101R31P-5L4DB | M83513/09-B01 | 101R15S-4E1AB |
| M83513/08-A11  | 101R09P-4F6AB   | M83513/08-E06 | 101R31P-5L4EB | M83513/09-B02 | 101R15S-4E1BB |
| M83513/08-A12  | 101R09P-4F6BB   | M83513/08-E07 | 101R31P-5L3DB | M83513/09-B03 | 101R15S-4E6AB |
| M83513/08-A13  | 101R09P-4E1CB   | M83513/08-E08 | 101R31P-5L3EB | M83513/09-B04 | 101R15S-4E6BB |
| M83513/08-A14  | 101R09P-4E6CB   | M83513/08-E09 | 101R31P-4F1AB | M83513/09-B05 | 101R15S-5L4DB |
| M83513/08-A15  | 101R09P-4F1CB   | M83513/08-E10 | 101R31P-4F1BB | M83513/09-B06 | 101R15S-5L4EB |
| M83513/08-A16  | 101R09P-4F6CB   | M83513/08-E11 | 101R31P-4F6AB | M83513/09-B07 | 101R15S-5L3DB |
| M83513/08-B01  | 101R15P-4E1AB   | M83513/08-E12 | 101R31P-4F6BB | M83513/09-B08 | 101R15S-5L3EB |
| M83513/08-B02  | 101R15P-4E1BB   | M83513/08-E13 | 101R31P-4E1CB | M83513/09-B09 | 101R15S-4F1AB |
| M83513/08-B03  | 101R15P-4E6AB   | M83513/08-E14 | 101R31P-4E6CB | M83513/09-B10 | 101R15S-4F1BB |
| M83513/08-B04  | 101R15P-4E6BB   | M83513/08-E15 | 101R31P-4F1CB | M83513/09-B11 | 101R15S-4E6AB |
| M83513/08-B05  | 101R15P-5L4DB   | M83513/08-E16 | 101R31P-4F6CB | M83513/09-B12 | 101R15S-4F6BB |
| M83513/08-B06  | 101R15P-5L4EB   | M83513/08-F01 | 101R37P-4E1AB | M83513/09-B13 | 101R15S-4E1CB |
| M83513/08-B07  | 101R15P-5L3DB   | M83513/08-F02 | 101R37P-4E1BB | M83513/09-B14 | 101R15S-4E6CB |

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Mil-Spec / Amphenol  
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| Mil-Spec      | Amphenol      | Mil-Spec        | Amphenol       | Mil-Spec        | Amphenol        |
|---------------|---------------|-----------------|----------------|-----------------|-----------------|
| M83513/09-B15 | 101R15S-4F1CB | M83513/09-F14   | 101R37S-4E6CB  | M83513/10-D02CP | 100RC25P-CBRP2  |
| M83513/09-C01 | 101R21S-4E1AB | M83513/09-F15   | 101R37S-4F1CB  | M83513/10-D02NN | 100RN25P-CBR2   |
| M83513/09-C02 | 101R21S-4E1BB | M83513/09-G01   | 101R51S-4E1AB  | M83513/10-D03NP | 100RN25P-CBRP2  |
| M83513/09-C03 | 101R21S-4E6AB | M83513/09-G02   | 101R51S-4E1BB  | M83513/10-D03CN | 100RC25P-CBR3   |
| M83513/09-C04 | 101R21S-4E6BB | M83513/09-G03   | 101R51S-4E6AB  | M83513/10-D03CP | 100RC25P-CBRP3  |
| M83513/09-C05 | 101R21S-5L4DB | M83513/09-G04   | 101R51S-4E6BB  | M83513/10-D03NN | 100RN25P-CBR3   |
| M83513/09-C06 | 101R21S-5L4EB | M83513/09-G05   | 101R51S-5L4DB  | M83513/10-D03NP | 100RN25P-CBRP3  |
| M83513/09-C07 | 101R21S-5L3DB | M83513/09-G06   | 101R51S-5L4EB  | M83513/10-E01CN | 100RC31P-CBR1   |
| M83513/09-C08 | 101R21S-5L3EB | M83513/09-G07   | 101R51S-5L3DB  | M83513/10-E01CP | 100RC31P-CBRP1  |
| M83513/09-C09 | 101R21S-4F1AB | M83513/09-G08   | 101R51S-5L3EB  | M83513/10-E01NN | 100RN31P-CBR1   |
| M83513/09-C10 | 101R21S-4F1BB | M83513/09-G09   | 101R51S-4F1AB  | M83513/10-E01NP | 100RN31P-CBRP1  |
| M83513/09-C11 | 101R21S-4E6AB | M83513/09-G10   | 101R51S-4F1BB  | M83513/10-E02CN | 100RC31P-CBR2   |
| M83513/09-C12 | 101R21S-4F6BB | M83513/09-G11   | 101R51S-4E6AB  | M83513/10-E02CP | 100RC31P-CBRP2  |
| M83513/09-C13 | 101R21S-4E1CB | M83513/09-G12   | 101R51S-4F6BB  | M83513/10-E02NN | 100RN31P-CBR2   |
| M83513/09-C14 | 101R21S-4E6CB | M83513/09-G13   | 101R51S-4E1CB  | M83513/10-E02NP | 100RN31P-CBRP2  |
| M83513/09-C15 | 101R21S-4F1CB | M83513/09-G14   | 101R51S-4E6CB  | M83513/10-E03CN | 100RC31P-CBR3   |
| M83513/09-D01 | 101R25S-4E1AB | M83513/09-G15   | 101R51S-4F1CB  | M83513/10-E03CP | 100RC31P-CBRP3  |
| M83513/09-D02 | 101R25S-4E1BB | M83513/10-A01CN | 100RC09P-CBR1  | M83513/10-E03NN | 100RN31P-CBR3   |
| M83513/09-D03 | 101R25S-4E6AB | M83513/10-A01CP | 100RC09P-CBRP1 | M83513/10-E03NP | 100RN31P-CBRP3  |
| M83513/09-D04 | 101R25S-4E6BB | M83513/10-A01NN | 100RN09P-CBR1  | M83513/10-F01CN | 100RC37P-CBR1   |
| M83513/09-D05 | 101R25S-5L4DB | M83513/10-A01NP | 100RN09P-CBRP1 | M83513/10-F01CP | 100RC37P-CBRP1  |
| M83513/09-D06 | 101R25S-5L4EB | M83513/10-A02CN | 100RC09P-CBR2  | M83513/10-F01NN | 100RN37P-CBR1   |
| M83513/09-D07 | 101R25S-5L3DB | M83513/10-A02CP | 100RC09P-CBRP2 | M83513/10-F01NP | 100RN37P-CBRP1  |
| M83513/09-D08 | 101R25S-5L3EB | M83513/10-A02NN | 100RN09P-CBR2  | M83513/10-F02CN | 100RC37P-CBR2   |
| M83513/09-D09 | 101R25S-4F1AB | M83513/10-A02NP | 100RN09P-CBRP2 | M83513/10-F02CP | 100RC37P-CBRP2  |
| M83513/09-D10 | 101R25S-4F1BB | M83513/10-A03CN | 100RC09P-CBR3  | M83513/10-F02NN | 100RN37P-CBR2   |
| M83513/09-D11 | 101R25S-4E6AB | M83513/10-A03CP | 100RC09P-CBRP3 | M83513/10-F02NP | 100RN37P-CBRP2  |
| M83513/09-D12 | 101R25S-4F6BB | M83513/10-A03NN | 100RN09P-CBR3  | M83513/10-F03CN | 100RC37P-CBR3   |
| M83513/09-D13 | 101R25S-4E1CB | M83513/10-A03NP | 100RN09P-CBRP3 | M83513/10-F03CP | 100RC37P-CBRP3  |
| M83513/09-D14 | 101R25S-4E6CB | M83513/10-B01CN | 100RC15P-CBR1  | M83513/10-F03NN | 100RN37P-CBR3   |
| M83513/09-D15 | 101R25S-4F1CB | M83513/10-B01CP | 100RC15P-CBRP1 | M83513/10-F03NP | 100RN37P-CBRP3  |
| M83513/09-E01 | 101R31S-4E1AB | M83513/10-B01NN | 100RN15P-CBR1  | M83513/11-G01CN | 100RC51P-CBR1   |
| M83513/09-E02 | 101R31S-4E1BB | M83513/10-B01NP | 100RN15P-CBRP1 | M83513/11-G01CP | 100RC51P-CBRP1  |
| M83513/09-E03 | 101R31S-4E6AB | M83513/10-B02CN | 100RC15P-CBR2  | M83513/11-G01NN | 100RN51P-CBR1   |
| M83513/09-E04 | 101R31S-4E6BB | M83513/10-B02CT | 100RC15P-CBRT2 | M83513/11-G01NP | 100RN51P-CBRP1  |
| M83513/09-E05 | 101R31S-5L4DB | M83513/10-B02CP | 100RC15P-CBRP2 | M83513/11-G02CN | 100RC51P-CBR2   |
| M83513/09-E06 | 101R31S-5L4EB | M83513/10-B02NN | 100RN15P-CBR2  | M83513/11-G02CP | 100RC51P-CBRP2  |
| M83513/09-E07 | 101R31S-5L3DB | M83513/10-B02NP | 100RN15P-CBRP2 | M83513/11-G02NN | 100RN51P-CBR2   |
| M83513/09-E08 | 101R31S-5L3EB | M83513/10-B03CN | 100RC15P-CBR3  | M83513/11-G02NP | 100RN51P-CBRP2  |
| M83513/09-E09 | 101R31S-4F1AB | M83513/10-B03CP | 100RC15P-CBRP3 | M83513/11-G03CN | 100RC51P-CBR3   |
| M83513/09-E10 | 101R31S-4F1BB | M83513/10-B03NN | 100RN15P-CBR3  | M83513/11-G03CP | 100RC51P-CBRP3  |
| M83513/09-E11 | 101R31S-4E6AB | M83513/10-B03NP | 100RN15P-CBRP3 | M83513/11-G03NN | 100RN51P-CBR3   |
| M83513/09-E12 | 101R31S-4F6BB | M83513/10-C01CN | 100RC21P-CBR1  | M83513/11-G03NP | 100RN51P-CBRP3  |
| M83513/09-E13 | 101R31S-4E1CB | M83513/10-C01CP | 100RC21P-CBRP1 | M83513/12-H01CN | 100RC100P-CBR1  |
| M83513/09-E14 | 101R31S-4E6CB | M83513/10-C01NN | 100RN21P-CBR1  | M83513/12-H01CP | 100RC100P-CBRP1 |
| M83513/09-E15 | 101R31S-4F1CB | M83513/10-C01NP | 100RN21P-CBRP1 | M83513/12-H01NN | 100RN100P-CBR1  |
| M83513/09-F01 | 101R37S-4E1AB | M83513/10-C02CN | 100RC21P-CBR2  | M83513/12-H01NP | 100RN100P-CBRP1 |
| M83513/09-F02 | 101R37S-4E1BB | M83513/10-C02CP | 100RC21P-CBRP2 | M83513/12-H02CN | 100RC100P-CBR2  |
| M83513/09-F03 | 101R37S-4E6AB | M83513/10-C02NN | 100RN21P-CBR2  | M83513/12-H02CP | 100RC100P-CBRP2 |
| M83513/09-F04 | 101R37S-4E6BB | M83513/10-C02NP | 100RN21P-CBRP2 | M83513/12-H02NN | 100RN100P-CBR2  |
| M83513/09-F05 | 101R37S-5L4DB | M83513/10-C03CN | 100RC21P-CBR3  | M83513/12-H02NP | 100RN100P-CBRP2 |
| M83513/09-F06 | 101R37S-5L4EB | M83513/10-C03CP | 100RC21P-CBRP3 | M83513/12-H03CN | 100RC100P-CBR3  |
| M83513/09-F07 | 101R37S-5L3DB | M83513/10-C03NN | 100RN21P-CBR3  | M83513/12-H03CP | 100RC100P-CBRP3 |
| M83513/09-F08 | 101R37S-5L3EB | M83513/10-C03NP | 100RN21P-CBRP3 | M83513/12-H03NN | 100RN100P-CBR3  |
| M83513/09-F09 | 101R37S-4F1AB | M83513/10-D01CN | 100RC25P-CBR1  | M83513/12-H03NP | 100RN100P-CBRP3 |
| M83513/09-F10 | 101R37S-4F1BB | M83513/10-D01CP | 100RC25P-CBRP1 | M83513/13-A01CN | 100RC09S-CBR1   |
| M83513/09-F11 | 101R37S-4E6AB | M83513/10-D01NN | 100RN25P-CBR1  | M83513/13-A01CP | 100RC09S-CBRP1  |
| M83513/09-F12 | 101R37S-4F6BB | M83513/10-D01NP | 100RN25P-CBRP1 | M83513/13-A01NN | 100RN09S-CBR1   |
| M83513/09-F13 | 101R37S-4E1CB | M83513/10-D02CN | 100RC25P-CBR2  | M83513/13-A01NP | 100RN09S-CBRP1  |

| Mil-Spec        | Amphenol       | Mil-Spec        | Amphenol       | Mil-Spec        | Amphenol     |
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| M83513/13-A02CN | 100RC09S-CBR2  | M83513/13-F01NN | 100RN37SCBR1   | M83513/16-C01CP | 100RC21PBRP1 |
| M83513/13-A02CP | 100RC09S-CBRP2 | M83513/13-F01NP | 100RN37SCBRP1  | M83513/16-C01NN | 100RN21PCBR1 |
| M83513/13-A02NN | 100RN09S-CBR2  | M83513/13-F02CN | 100RC37SCBR2   | M83513/16-C01NP | 100RN21PBRP1 |
| M83513/13-A02NP | 100RN09S-CBRP2 | M83513/13-F02CP | 100RC37SCBRP2  | M83513/16-C02CN | 100RC21PBR2  |
| M83513/13-A03CN | 100RC09S-CBR3  | M83513/13-F02NN | 100RN37SCBR2   | M83513/16-C02CP | 100RC21PBRP2 |
| M83513/13-A03CP | 100RC09S-CBRP3 | M83513/13-F02NP | 100RN37SCBRP2  | M83513/16-C02NN | 100RN21PBR2  |
| M83513/13-A03NN | 100RN09S-CBR3  | M83513/13-F03CN | 100RC37SCBR3   | M83513/16-C02NP | 100RN21PBRP2 |
| M83513/13-A03NP | 100RN09S-CBRP3 | M83513/13-F03CP | 100RC37SCBRP3  | M83513/16-C03CN | 100RC21PBR3  |
| M83513/13-B01CN | 100RC15S-CBR1  | M83513/13-F03NN | 100RN37SCBR3   | M83513/16-C03CP | 100RC21PBRP3 |
| M83513/13-B01CP | 100RC15S-CBRP1 | M83513/13-F03NP | 100RN37SCBRP3  | M83513/16-C03NN | 100RN21PBR3  |
| M83513/13-B01NN | 100RN15S-CBR1  | M83513/14-G01CN | 100RC51SCBR1   | M83513/16-C03NP | 100RN21PBRP3 |
| M83513/13-B01NP | 100RN15S-CBRP1 | M83513/14-G01CP | 100RC51SCBRP1  | M83513/16-D01CN | 100RC25PBR1  |
| M83513/13-B02CN | 100RC15S-CBR2  | M83513/14-G01NN | 100RN51SCBR1   | M83513/16-D01CP | 100RC25PBRP1 |
| M83513/13-B02CP | 100RC15S-CBRP2 | M83513/14-G01NP | 100RN51SCBRP1  | M83513/16-D01NN | 100RN25PBR1  |
| M83513/13-B02CT | 100RC15S-CBR2  | M83513/14-G02CN | 100RC51SCBR2   | M83513/16-D01NP | 100RN25PBRP1 |
| M83513/13-B02NN | 100RN15S-CBR2  | M83513/14-G02CP | 100RC51SCBRP2  | M83513/16-D02CN | 100RC25PBR2  |
| M83513/13-B02NP | 100RN15S-CBRP2 | M83513/14-G02NN | 100RN51SCBR2   | M83513/16-D02CP | 100RC25PBRP2 |
| M83513/13-B03CN | 100RC15S-CBR3  | M83513/14-G02NP | 100RN51SCBRP2  | M83513/16-D02NN | 100RN25PBR2  |
| M83513/13-B03CP | 100RC15S-CBRP3 | M83513/14-G03CN | 100RC51SCBR3   | M83513/16-D02NP | 100RN25PBRP2 |
| M83513/13-B03NN | 100RN15S-CBR3  | M83513/14-G03CP | 100RC51SCBRP3  | M83513/16-D03CN | 100RC25PBR3  |
| M83513/13-B03NP | 100RN15S-CBRP3 | M83513/14-G03NN | 100RN51SCBR3   | M83513/16-D03CP | 100RC25PBRP3 |
| M83513/13-C01CN | 100RC21S-CBR1  | M83513/14-G03NP | 100RN51SCBRP3  | M83513/16-D03NN | 100RN25PBR3  |
| M83513/13-C01CP | 100RC21S-CBRP1 | M83513/14-H01CN | 100RC100SCBR1  | M83513/16-D03NP | 100RN25PBRP3 |
| M83513/13-C01NN | 100RN21S-CBR1  | M83513/15-H01CP | 100RC100SCBRP1 | M83513/16-E01CN | 100RC31PBR1  |
| M83513/13-C01NP | 100RN21S-CBRP1 | M83513/15-H01NN | 100RN100SCBR1  | M83513/16-E01CP | 100RC31PBRP1 |
| M83513/13-C02CN | 100RC21S-CBR2  | M83513/15-H01NP | 100RN100SCBRP1 | M83513/16-E01NN | 100RN31PBR1  |
| M83513/13-C02CP | 100RC21S-CBRP2 | M83513/15-H02CN | 100RC100SCBR2  | M83513/16-E01NP | 100RN31PBRP1 |
| M83513/13-C02NN | 100RN21S-CBR2  | M83513/15-H02CP | 100RC100SCBRP2 | M83513/16-E02CN | 100RC31PBR2  |
| M83513/13-C02NP | 100RN21S-CBRP2 | M83513/15-H02NN | 100RN100SCBR2  | M83513/16-E02CP | 100RC31PBRP2 |
| M83513/13-C03CN | 100RC21S-CBR3  | M83513/15-H02NP | 100RN100SCBRP2 | M83513/16-E02NN | 100RN31PBR2  |
| M83513/13-C03CP | 100RC21S-CBRP3 | M83513/15-H03CN | 100RC100SCBR3  | M83513/16-E02NP | 100RN31PBRP2 |
| M83513/13-C03NN | 100RN21S-CBR3  | M83513/15-H03CP | 100RC100SCBRP3 | M83513/16-E03CN | 100RC31PBR3  |
| M83513/13-C03NP | 100RN21S-CBRP3 | M83513/15-H03NN | 100RN100SCBR3  | M83513/16-E03CP | 100RC31PBRP3 |
| M83513/13-D01CN | 100RC25SCBR1   | M83513/15-H03NP | 100RN100SCBRP3 | M83513/16-E03NN | 100RN31PBR3  |
| M83513/13-D01CP | 100RC25SCBRP1  | M83513/16-A01CN | 100RC09SBR1    | M83513/16-E03NP | 100RN31PBRP3 |
| M83513/13-D01NN | 100RN25SCBR1   | M83513/16-A01CP | 100RC09PBRP1   | M83513/16-F01CN | 100RC37PBR1  |
| M83513/13-D01NP | 100RN25SCBRP1  | M83513/16-A01NN | 100RN09PBR1    | M83513/16-F01CP | 100RC37PBRP1 |
| M83513/13-D02CN | 100RC25SCBR2   | M83513/16-A01NP | 100RN09PBRP1   | M83513/16-F01NN | 100RN37PBR1  |
| M83513/13-D02CP | 100RC25SCBRP2  | M83513/16-A02CN | 100RC09PBR2    | M83513/16-F01NP | 100RN37PBRP1 |
| M83513/13-D02NN | 100RN25SCBR2   | M83513/16-A02CP | 100RC09PBRP2   | M83513/16-F02CN | 100RC37PBR2  |
| M83513/13-D02NP | 100RN25SCBRP2  | M83513/16-A02NN | 100RN09PBR2    | M83513/16-F02CP | 100RC37PBRP2 |
| M83513/13-D03CN | 100RC25SCBR3   | M83513/16-A02NP | 100RN09PBRP2   | M83513/16-F02NN | 100RN37PBR2  |
| M83513/13-D03CP | 100RC25SCBRP3  | M83513/16-A03CN | 100RC09PBR3    | M83513/16-F02NP | 100RN37PBRP2 |
| M83513/13-D03NN | 100RN25SCBR3   | M83513/16-A03CP | 100RC09PBRP3   | M83513/16-F03CN | 100RC37PBR3  |
| M83513/13-D03NP | 100RN25SCBRP3  | M83513/16-A03NN | 100RN09PBR3    | M83513/16-F03CP | 100RC37PBRP3 |
| M83513/13-E01CN | 100RC31SCBR1   | M83513/16-A03NP | 100RN09PBRP3   | M83513/16-F03NN | 100RN37PBR3  |
| M83513/13-E01CP | 100RC31SCBRP1  | M83513/16-B01CN | 100RC15PBR1    | M83513/16-F03NP | 100RN37PBRP3 |
| M83513/13-E01NN | 100RN31SCBR1   | M83513/16-B01CP | 100RC15PBRP1   | M83513/17-G01CN | 100RC51PBR1  |
| M83513/13-E01NP | 100RN31SCBRP1  | M83513/16-B01NN | 100RN15PBR1    | M83513/17-G01CP | 100RC51PBRP1 |
| M83513/13-E02CN | 100RC31SCBR2   | M83513/16-B01NP | 100RN15PBRP1   | M83513/17-G01NN | 100RN51PBR1  |
| M83513/13-E02CP | 100RC31SCBRP2  | M83513/16-B02CN | 100RC15PBR2    | M83513/17-G01NP | 100RN51PBRP1 |
| M83513/13-E02NN | 100RN31SCBR2   | M83513/16-B02CP | 100RC15PBRP2   | M83513/17-G02CN | 100RC51PBR2  |
| M83513/13-E02NP | 100RN31SCBRP2  | M83513/16-B02NN | 100RN15PBR2    | M83513/17-G02CP | 100RC51PBRP2 |
| M83513/13-E03CN | 100RC31SCBR3   | M83513/16-B02NP | 100RN15PBRP2   | M83513/17-G02NN | 100RN51PBR2  |
| M83513/13-E03CP | 100RC31SCBRP3  | M83513/16-B03CN | 100RC15PBR3    | M83513/17-G02NP | 100RN51PBRP2 |
| M83513/13-E03NN | 100RN31SCBR3   | M83513/16-B03CP | 100RC15PBRP3   | M83513/17-G03CN | 100RC51PBR3  |
| M83513/13-E03NP | 100RN31SCBRP3  | M83513/16-B03NN | 100RN15PBR3    | M83513/17-G03CP | 100RC51PBRP3 |
| M83513/13-F01CN | 100RC37SCBR1   | M83513/16-B03NP | 100RN15PBRP3   | M83513/17-G03NN | 100RN51PBR3  |
| M83513/13-F01CP | 100RC37SCBRP1  | M83513/16-C01CN | 100RC21PBR1    | M83513/17-G03NP | 100RN51PBRP3 |



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| Mil-Spec        | Amphenol      | Mil-Spec        | Amphenol      | Mil-Spec        | Amphenol      |
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| M83513/18-H01CN | 100RC100PBR1  | M83513/19-D03NP | 100RN25SBRP3  | M83513/22-A03NN | 100RN09PBS3   |
| M83513/18-H01CP | 100RC100PBRP1 | M83513/19-E01CN | 100RC31SBR1   | M83513/22-A03NP | 100RN09PBSP3  |
| M83513/18-H01NN | 100RN100PBR1  | M83513/19-E01CP | 100RC31SBRP1  | M83513/22-B01CN | 100RC15PBS1   |
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| M83513/18-H02CN | 100RC100PBR2  | M83513/19-E01NP | 100RN31SBRP1  | M83513/22-B01NN | 100RN15PBS1   |
| M83513/18-H02CP | 100RC100PBRP2 | M83513/19-E02CN | 100RC31SBR2   | M83513/22-B01NP | 100RN15PBSP1  |
| M83513/18-H02NN | 100RN100PBR2  | M83513/19-E02CP | 100RC31SBRP2  | M83513/22-B02CN | 100RC15PBS2   |
| M83513/18-H02NP | 100RN100PBRP2 | M83513/19-E02NN | 100RN31SBR2   | M83513/22-B02CP | 100RC15PBSP2  |
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| M83513/18-H03CP | 100RC100PBRP3 | M83513/19-E03CN | 100RC31SBR3   | M83513/22-B02NP | 100RN15PBSP2  |
| M83513/18-H03NN | 100RN100PBR3  | M83513/19-E03CP | 100RC31SBRP3  | M83513/22-B01CT | 100RC15P-BST1 |
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| M83513/19-A01NP | 100RN09SBRP1  | M83513/19-F01NN | 100RN37SBR1   | M83513/22-C01CN | 100RC21PBS1   |
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| M83513/19-D02CP | 100RC25SBRP2  | M83513/22-A02CN | 100RC09PBS2   | M83513/22-F01NN | 100RN37PBS1   |
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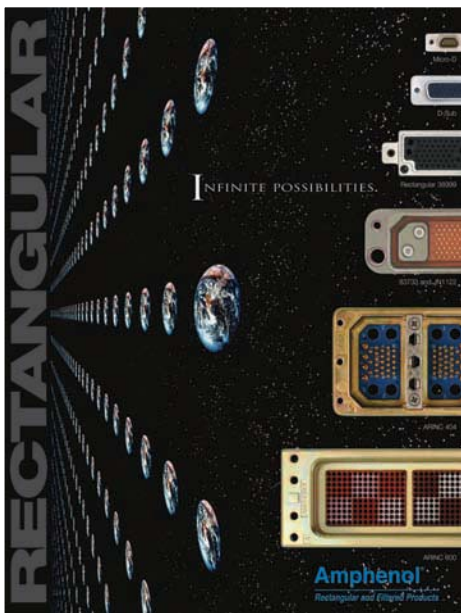
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| M83513/22-F03NP | 100RN37PBSP3  | M83513/25-C03CP | 100RC21SBSP3  | M83513/27-H03CN | 100RC100SBS3   |
| M83513/23-G01CN | 100RC51PBS1   | M83513/25-C03NN | 100RN21SBS3   | M83513/27-H03CP | 100RC100SBSP3  |
| M83513/23-G01CP | 100RC51PBSP1  | M83513/25-C03NP | 100RN21SBSP3  | M83513/27-H03NN | 100RN100SBS3   |
| M83513/23-G01NN | 100RN51PBS1   | M83513/25-D01CN | 100RC25SBS1   | M83513/27-H03NP | 100RN100SBSP3  |
| M83513/23-G01NP | 100RN51PBSP1  | M83513/25-D01CP | 100RC25SBSP1  | M83513/28-A01CN | 100RC09P-C61   |
| M83513/23-G02CN | 100RC51PBS2   | M83513/25-D01NN | 100RN25SBS1   | M83513/28-A01CP | 100RC09P-C6P1  |
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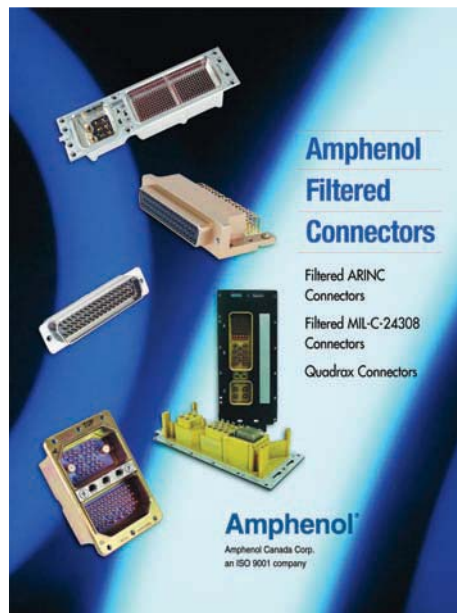
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| M83513/28-C02NN | 100RN21P-C62   | M83513/28-E03NW | 100RN31P-C6PT3 | M83513/30-G02CT | 100RC100P-C6T2  |
| M83513/28-C02NP | 100RN21P-C6P2  | M83513/28-F01CN | 100RC37P-C61   | M83513/30-G02CW | 100RC100P-C6PT2 |
| M83513/28-C02NT | 100RN21P-C6T2  | M83513/28-F01CP | 100RC37P-C6P1  | M83513/30-G02NN | 100RN100P-C62   |
| M83513/28-C02NW | 100RN21P-C6PT2 | M83513/28-F01CT | 100RC37P-C6T1  | M83513/30-G02NP | 100RN100P-C6P2  |
| M83513/28-C03CN | 100RC21P-C63   | M83513/28-F01CW | 100RC37P-C6PT1 | M83513/30-G02NT | 100RN100P-C6T2  |
| M83513/28-C03CP | 100RC21P-C6P3  | M83513/28-F01NN | 100RN37P-C61   | M83513/30-G02NW | 100RN100P-C6PT2 |
| M83513/28-C03CT | 100RC21P-C6T3  | M83513/28-F01NP | 100RN37P-C6P1  | M83513/30-G03CN | 100RC100P-C63   |
| M83513/28-C03CW | 100RC21P-C6PT3 | M83513/28-F01NT | 100RN37P-C6T1  | M83513/30-G03CP | 100RC100P-C6P3  |
| M83513/28-C03NN | 100RN21P-C63   | M83513/28-F01NW | 100RN37P-C6PT1 | M83513/30-G03CT | 100RC100P-C6T3  |
| M83513/28-C03NP | 100RN21P-C6P3  | M83513/28-F02CN | 100RC37P-C62   | M83513/30-G03CW | 100RC100P-C6PT3 |
| M83513/28-C03NT | 100RN21P-C6T3  | M83513/28-F02CP | 100RC37P-C6P2  | M83513/30-G03NN | 100RN100P-C63   |
| M83513/28-C03NW | 100RN21P-C6PT3 | M83513/28-F02CT | 100RC37P-C6T2  | M83513/30-G03NP | 100RN100P-C6P3  |
| M83513/28-D01CN | 100RC25P-C61   | M83513/28-F02CW | 100RC37P-C6PT2 | M83513/30-G03NT | 100RN100P-C6T3  |
| M83513/28-D01CP | 100RC25P-C6P1  | M83513/28-F02NN | 100RN37P-C62   | M83513/30-G03NW | 100RN100P-C6PT3 |
| M83513/28-D01CT | 100RC25P-C6T1  | M83513/28-F02NP | 100RN37P-C6P2  | M83513/31-A01CN | 100RC09S-C61    |
| M83513/28-D01CW | 100RC25P-C6PT1 | M83513/28-F02NT | 100RN37P-C6T2  | M83513/31-A01CP | 100RC09S-C6P1   |
| M83513/28-D01NN | 100RN25P-C61   | M83513/28-F02NW | 100RN37P-C6PT2 | M83513/31-A01CT | 100RC09S-C6T1   |
| M83513/28-D01NP | 100RN25P-C6P1  | M83513/28-F03CN | 100RC37P-C63   | M83513/31-A01CW | 100RC09S-C6PT1  |
| M83513/28-D01NT | 100RN25P-C6T1  | M83513/28-F03CP | 100RC37P-C6P3  | M83513/31-A01NN | 100RN09S-C61    |
| M83513/28-D01NW | 100RN25P-C6PT1 | M83513/28-F03CT | 100RC37P-C6T3  | M83513/31-A01NP | 100RN09S-C6P1   |
| M83513/28-D02CN | 100RC25P-C62   | M83513/28-F03CW | 100RC37P-C6PT3 | M83513/31-A01NT | 100RN09S-C6T1   |
| M83513/28-D02CP | 100RC25P-C6P2  | M83513/28-F03NN | 100RN37P-C63   | M83513/31-A01NW | 100RN09S-C6PT1  |
| M83513/28-D02CT | 100RC25P-C6T2  | M83513/28-F03NP | 100RN37P-C6P3  | M83513/31-A02CN | 100RC09S-C62    |
| M83513/28-D02CW | 100RC25P-C6PT2 | M83513/28-F03NT | 100RN37P-C6T3  | M83513/31-A02CP | 100RC09S-C6P2   |
| M83513/28-D02NN | 100RN25P-C62   | M83513/28-F03NW | 100RN37P-C6PT3 | M83513/31-A02CT | 100RC09S-C6T2   |
| M83513/28-D02NP | 100RN25P-C6P2  | M83513/29-G01CN | 100RC51P-C61   | M83513/31-A02CW | 100RC09S-C6PT2  |
| M83513/28-D02NT | 100RN25P-C6T2  | M83513/29-G01CP | 100RC51P-C6P1  | M83513/31-A02NN | 100RN09S-C62    |
| M83513/28-D02NW | 100RN25P-C6PT2 | M83513/29-G01CT | 100RC51P-C6T1  | M83513/31-A02NP | 100RN09S-C6P2   |
| M83513/28-D03CN | 100RC25P-C63   | M83513/29-G01CW | 100RC51P-C6PT1 | M83513/31-A02NT | 100RN09S-C6T2   |
| M83513/28-D03CP | 100RC25P-C6P3  | M83513/29-G01NN | 100RN51P-C61   | M83513/31-A02NW | 100RN09S-C6PT2  |
| M83513/28-D03CT | 100RC25P-C6T3  | M83513/29-G01NP | 100RN51P-C6P1  | M83513/31-A03CN | 100RC09S-C63    |
| M83513/28-D03CW | 100RC25P-C6PT3 | M83513/29-G01NT | 100RN51P-C6T1  | M83513/31-A03CP | 100RC09S-C6P3   |
| M83513/28-D03NN | 100RN25P-C63   | M83513/29-G01NW | 100RN51P-C6PT1 | M83513/31-A03CT | 100RC09S-C6T3   |
| M83513/28-D03NP | 100RN25P-C6P3  | M83513/29-G02CN | 100RC51P-C62   | M83513/31-A03CW | 100RC09S-C6PT3  |
| M83513/28-D03NT | 100RN25P-C6T3  | M83513/29-G02CP | 100RC51P-C6P2  | M83513/31-A03NN | 100RN09S-C63    |
| M83513/28-D03NW | 100RN25P-C6PT3 | M83513/29-G02CT | 100RC51P-C6T2  | M83513/31-A03NP | 100RN09S-C6P3   |
| M83513/28-E01CN | 100RC31P-C61   | M83513/29-G02CW | 100RC51P-C6PT2 | M83513/31-A03NT | 100RN09S-C6T3   |
| M83513/28-E01CP | 100RC31P-C6P1  | M83513/29-G02NN | 100RN51P-C62   | M83513/31-A03NW | 100RN09S-C6PT3  |
| M83513/28-E01CT | 100RC31P-C6T1  | M83513/29-G02NP | 100RN51P-C6P2  | M83513/31-B01CN | 100RC15S-C61    |
| M83513/28-E01CW | 100RC31P-C6PT1 | M83513/29-G02NT | 100RN51P-C6T2  | M83513/31-B01CP | 100RC15S-C6P1   |
| M83513/28-E01NN | 100RN31P-C61   | M83513/29-G02NW | 100RN51P-C6PT2 | M83513/31-B01CT | 100RC15S-C6T1   |
| M83513/28-E01NP | 100RN31P-C6P1  | M83513/29-G03CN | 100RC51P-C63   | M83513/31-B01CW | 100RC15S-C6PT1  |
| M83513/28-E01NT | 100RN31P-C6T1  | M83513/29-G03CP | 100RC51P-C6P3  | M83513/31-B01NN | 100RN15S-C61    |
| M83513/28-E01NW | 100RN31P-C6PT1 | M83513/29-G03CT | 100RC51P-C6T3  | M83513/31-B01NP | 100RN15S-C6P1   |
| M83513/28-E02CN | 100RC31P-C62   | M83513/29-G03CW | 100RC51P-C6PT3 | M83513/31-B01NT | 100RN15S-C6T1   |
| M83513/28-E02CP | 100RC31P-C6P2  | M83513/29-G03NN | 100RN51P-C63   | M83513/31-B01NW | 100RN15S-C6PT1  |
| M83513/28-E02CT | 100RC31P-C6T2  | M83513/29-G03NP | 100RN51P-C6P3  | M83513/31-B02CN | 100RC15S-C62    |
| M83513/28-E02CW | 100RC31P-C6PT2 | M83513/29-G03NT | 100RN51P-C6T3  | M83513/31-B02CP | 100RC15S-C6P2   |
| M83513/28-E02NN | 100RN31P-C62   | M83513/29-G03NW | 100RN51P-C6PT3 | M83513/31-B02CT | 100RC15S-C6T2   |
| M83513/28-E02NP | 100RN31P-C6P2  | M83513/30-G01CN | 100RC100P-C61  | M83513/31-B02CW | 100RC15S-C6PT2  |
| M83513/28-E02NT | 100RN31P-C6T2  | M83513/30-G01CP | 100RC100P-C6P1 | M83513/31-B02NN | 100RN15S-C62    |

| Mil-Spec        | Amphenol       | Mil-Spec        | Amphenol       | Mil-Spec        | Amphenol        |
|-----------------|----------------|-----------------|----------------|-----------------|-----------------|
| M83513/31-B02NP | 100RN15S-C6P2  | M83513/31-E01CN | 100RC31S-C61   | M83513/32-G02CW | 100RC51S-C6PT2  |
| M83513/31-B02NT | 100RN15R-C6T2  | M83513/31-E01CP | 100RC31S-C6P1  | M83513/32-G02NN | 100RN51S-C62    |
| M83513/31-B02NW | 100RN15S-C6PT2 | M83513/31-E01CT | 100RC31S-C6T1  | M83513/32-G02NP | 100RN51S-C6P2   |
| M83513/31-B03CN | 100RC15S-C63   | M83513/31-E01CW | 100RC31S-C6PT1 | M83513/32-G02NT | 100RN51S-C6T2   |
| M83513/31-B03CP | 100RC15S-C6P3  | M83513/31-E01NN | 100RN31S-C61   | M83513/32-G02NW | 100RN51S-C6PT2  |
| M83513/31-B03CT | 100RC15S-C6T3  | M83513/31-E01NP | 100RN31S-C6P1  | M83513/32-G03CN | 100RC51S-C63    |
| M83513/31-B03CW | 100RC15S-C6PT3 | M83513/31-E01NT | 100RN31S-C6T1  | M83513/32-G03CP | 100RC51S-C6P3   |
| M83513/31-B03NN | 100RN15S-C63   | M83513/31-E01NW | 100RN31S-C6PT1 | M83513/32-G03CT | 100RC51S-C6T3   |
| M83513/31-B03NP | 100RN15S-C6P3  | M83513/31-E02CN | 100RC31S-C62   | M83513/32-G03CW | 100RC51S-C6PT3  |
| M83513/31-B03NT | 100RN15S-C6T3  | M83513/31-E02CP | 100RC31S-C6P2  | M83513/32-G03NN | 100RN51S-C63    |
| M83513/31-B03NW | 100RN15S-C6PT3 | M83513/31-E02CT | 100RC31S-C6T2  | M83513/32-G03NP | 100RN51S-C6P3   |
| M83513/31-C01CN | 100RC21S-C61   | M83513/31-E02CW | 100RC31S-C6PT2 | M83513/32-G03NT | 100RN51S-C6T3   |
| M83513/31-C01CP | 100RC21S-C6P1  | M83513/31-E02NN | 100RN31S-C62   | M83513/32-G03NW | 100RN51S-C6PT3  |
| M83513/31-C01CT | 100RC21S-C6T1  | M83513/31-E02NP | 100RN31S-C6P2  | M83513/33-H01CN | 100RC100S-C61   |
| M83513/31-C01CW | 100RC21S-C6PT1 | M83513/31-E02NT | 100RN31S-C6T2  | M83513/33-H01CP | 100RC100S-C6P1  |
| M83513/31-C01NN | 100RN21S-C61   | M83513/31-E02NW | 100RN31S-C6PT2 | M83513/33-H01CT | 100RC100S-C6T1  |
| M83513/31-C01NP | 100RN21S-C6P1  | M83513/31-E03CN | 100RC31S-C63   | M83513/33-H01CW | 100RC100S-C6PT1 |
| M83513/31-C01NT | 100RN21S-C6T1  | M83513/31-E03CP | 100RC31S-C6P3  | M83513/33-H01NN | 100RN100S-C61   |
| M83513/31-C01NW | 100RN21S-C6PT1 | M83513/31-E03CT | 100RC31S-C6T3  | M83513/33-H01NP | 100RN100S-C6P1  |
| M83513/31-C02CN | 100RC21S-C62   | M83513/31-E03CW | 100RC31S-C6PT3 | M83513/33-H01NT | 100RN100S-C6T1  |
| M83513/31-C02CP | 100RC21S-C6P2  | M83513/31-E03NN | 100RN31S-C63   | M83513/33-H01NW | 100RN100S-C6PT1 |
| M83513/31-C02CT | 100RC21S-C6T2  | M83513/31-E03NP | 100RN31S-C6P3  | M83513/33-H02CN | 100RC100S-C62   |
| M83513/31-C02CW | 100RC21S-C6PT2 | M83513/31-E03NT | 100RN31S-C6T3  | M83513/33-H02CP | 100RC100S-C6P2  |
| M83513/31-C02NN | 100RN21S-C62   | M83513/31-E03NW | 100RN31S-C6PT3 | M83513/33-H02CT | 100RC100S-C6T2  |
| M83513/31-C02NP | 100RN21S-C6P2  | M83513/31-F01CN | 100RC37S-C61   | M83513/33-H02CW | 100RC100S-C6PT2 |
| M83513/31-C02NT | 100RN21S-C6T2  | M83513/31-F01CP | 100RC37S-C6P1  | M83513/33-H02NN | 100RN100S-C62   |
| M83513/31-C02NW | 100RN21S-C6PT2 | M83513/31-F01CT | 100RC37S-C6T1  | M83513/33-H02NP | 100RN100S-C6P2  |
| M83513/31-C03CN | 100RC21S-C63   | M83513/31-F01CW | 100RC37S-C6PT1 | M83513/33-H02NT | 100RN100S-C6T2  |
| M83513/31-C03CP | 100RC21S-C6P3  | M83513/31-F01NN | 100RN37S-C61   | M83513/33-H02NW | 100RN100S-C6PT2 |
| M83513/31-C03CT | 100RC21S-C6T3  | M83513/31-F01NP | 100RN37S-C6P1  | M83513/33-H03CN | 100RC100S-C63   |
| M83513/31-C03CW | 100RC21S-C6PT3 | M83513/31-F01NT | 100RN37S-C6T1  | M83513/33-H03CP | 100RC100S-C6P3  |
| M83513/31-C03NN | 100RN21S-C63   | M83513/31-F01NW | 100RN37S-C6PT1 | M83513/33-H03CT | 100RC100S-C6T3  |
| M83513/31-C03NP | 100RN21S-C6P3  | M83513/31-F02CN | 100RC37S-C62   | M83513/33-H03CW | 100RC100S-C6PT3 |
| M83513/31-C03NT | 100RN21S-C6T3  | M83513/31-F02CP | 100RC37S-C6P2  | M83513/33-H03NN | 100RN100S-C63   |
| M83513/31-C03NW | 100RN21S-C6PT3 | M83513/31-F02CT | 100RC37S-C6T2  | M83513/33-H03NP | 100RN100S-C6P3  |
| M83513/31-D01CN | 100RC25S-C61   | M83513/31-F02CW | 100RC37S-C6PT2 | M83513/33-H03NT | 100RN100S-C6T3  |
| M83513/31-D01CP | 100RC25S-C6P1  | M83513/31-F02NN | 100RN37S-C62   | M83513/33-H03NW | 100RN100S-C6PT3 |
| M83513/31-D01CT | 100RC25S-C6T1  | M83513/31-F02NP | 100RN37S-C6P2  |                 |                 |
| M83513/31-D01CW | 100RC25S-C6PT1 | M83513/31-F02NT | 100RN37S-C6T2  |                 |                 |
| M83513/31-D01NN | 100RN25S-C61   | M83513/31-F02NW | 100RN37S-C6PT2 |                 |                 |
| M83513/31-D01NP | 100RN25S-C6P1  | M83513/31-F03CN | 100RC37S-C63   |                 |                 |
| M83513/31-D01NT | 100RN25S-C6T1  | M83513/31-F03CP | 100RC37S-C6P3  |                 |                 |
| M83513/31-D01NW | 100RN25S-C6PT1 | M83513/31-F03CT | 100RC37S-C6T3  |                 |                 |
| M83513/31-D02CN | 100RC25S-C62   | M83513/31-F03CW | 100RC37S-C6PT3 |                 |                 |
| M83513/31-D02CP | 100RC25S-C6P2  | M83513/31-F03NN | 100RN37S-C63   |                 |                 |
| M83513/31-D02CT | 100RC25S-C6T2  | M83513/31-F03NP | 100RN37S-C6P3  |                 |                 |
| M83513/31-D02CW | 100RC25S-C6PT2 | M83513/31-F03NT | 100RN37S-C6T3  |                 |                 |
| M83513/31-D02NN | 100RN25S-C62   | M83513/31-F03NW | 100RN37S-C6PT3 |                 |                 |
| M83513/31-D02NP | 100RN25S-C6P2  | M83513/32-G01CN | 100RC51S-C61   |                 |                 |
| M83513/31-D02NT | 100RN25S-C6T2  | M83513/32-G01CP | 100RC51S-C6P1  |                 |                 |
| M83513/31-D02NW | 100RN25S-C6PT2 | M83513/32-G01CT | 100RC51S-C6T1  |                 |                 |
| M83513/31-D03CN | 100RC25S-C63   | M83513/32-G01CW | 100RC51S-C6PT1 |                 |                 |
| M83513/31-D03CP | 100RC25S-C6P3  | M83513/32-G01NN | 100RN51S-C61   |                 |                 |
| M83513/31-D03CT | 100RC25S-C6T3  | M83513/32-G01NP | 100RN51S-C6P1  |                 |                 |
| M83513/31-D03CW | 100RC25S-C6PT3 | M83513/32-G01NT | 100RN51S-C6T1  |                 |                 |
| M83513/31-D03NN | 100RN25S-C63   | M83513/32-G01NW | 100RN51S-C6PT1 |                 |                 |
| M83513/31-D03NP | 100RN25S-C6P3  | M83513/32-G02CN | 100RC51S-C62   |                 |                 |
| M83513/31-D03NT | 100RN25S-C6T3  | M83513/32-G02CP | 100RC51S-C6P2  |                 |                 |
| M83513/31-D03NW | 100RN25S-C6PT3 | M83513/32-G02CT | 100RC51S-C6T2  |                 |                 |



### Rectangular and Filtered Product Overview



### Filtered Connectors

**Amphenol** 164F SERIES

#### MIL-C-55116 Filtered Audio Connectors

Amphenol's 164F series is a line of filtered MIL-C-55116 or MIL-C-38999 connectors for use in audio, electronic, and data transmission applications. Designed specifically for non-GND, sensitive impedance applications or alternate impedance applications, the 164F series offers communication security and EECM capabilities. Two connector lengths are offered by design flexibility to meet existing product requirements. The standard version is specifically designed to connect audio products for filtered audio connectors. The other version offers 500K ohm loading, allowing easier design into greater audio sets or variety of non-filtered equipment.

Low loss impedance technology in combination with Amphenol's stress isolation design results in a shorter, lighter connector with superior thermal and practical shock capabilities. Both S & A pin versions are available with either solder cup or P.C.B. terminations.

For further information, please contact your nearest Amphenol sales representative or the factory directly.

**Specifications**

**Mechanical:** Meets or exceeds all requirements of MIL-C-55116 Rev. B  
 - Mating Durability: 3000 cycles  
 - Contact Interference: 20A, 10 lb  
 - Physical Shock: passes 14ms, 10 g drop test to concrete floor.

**Materials:** Contacts: copper alloy, 99% tin/lead  
 - gold plate minimum layer finish  
 - Shell: stainless steel type 303, passivated

**Environmental:** Meets or exceeds all requirements of MIL-C-55116 Rev. B  
 - Thermal Shock: per MIL-STD-202, method 100A, test condition B (20 to 80°C)  
 - Operating Temp: Range: 55 to 125°C  
 - Thermal Aging: per MIL-STD-202, method 101A

**Electrical Characteristics\***

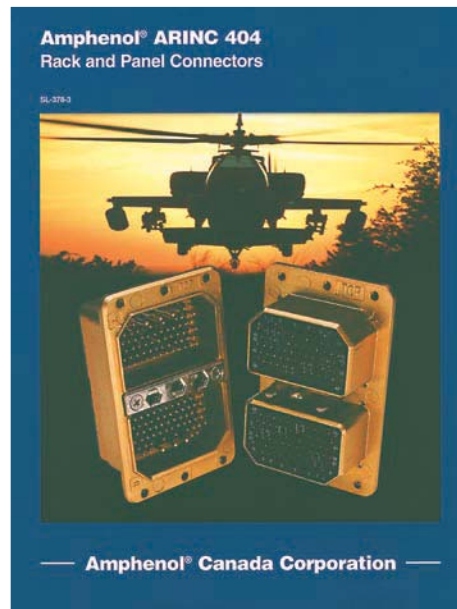
| Filter Program  | Shield Connector | 151            | 152             | —                | 381      |
|---|------------------|----------------|-----------------|------------------|----------|
| Filter Circuit Type                                       | Shield           | Shield         | Shield          | Shield           | —        |
| Capacitance @ 1 kHz (10 MHz and 1 MHz)                    | 2000 to 3000 pF  | 800 to 1000 pF | 3000 to 4000 pF | 7000 to 10000 pF | 10000 pF |
| Working Voltage @ 50°C (50 MHz and 1 MHz)                 | —                | 500 VDC        | —               | —                | —        |
| Dielectric Withstanding Voltage @ 50°C (50 MHz and 1 MHz) | —                | 100 VDC        | —               | —                | —        |
| Insulation Resistance (minimum @ 50°C)                    | —                | 10 Gohm        | —               | —                | —        |
| Filter W/ Current Rating (min. @ 50 Hz)                   | —                | 2 ampere       | —               | —                | —        |
| Operating Temp. Range (°C)                                | —                | -55° to +125°  | —               | —                | —        |

\*Note: Refer to EIA-609 for connector pin configurations. Consult factory for custom requirements and specifications.

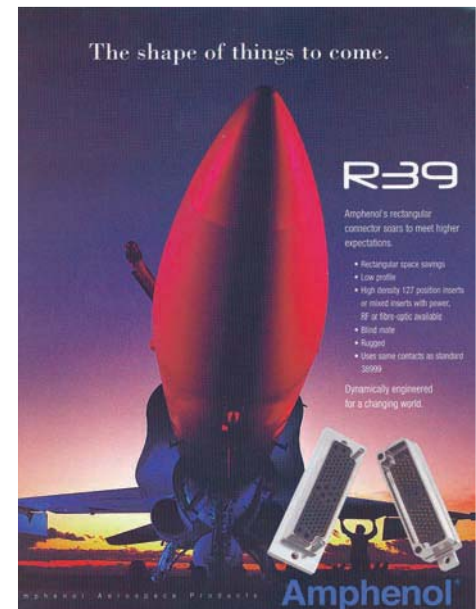
### Filtered Audio Connectors



### ARINC 600 Rack & Panel Connectors



### ARINC 404 Rack & Panel Connectors



### R39 Rectangular 38999 Connectors

Amphenol Canada Corporation offers a comprehensive range of filtered and rectangular products for Military, Aerospace, Commercial and Industrial applications. Please contact us for further information.

# Amphenol®

## Rectangular and Filtered Products

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 E-mail: sales@amphenolcanada.com  
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