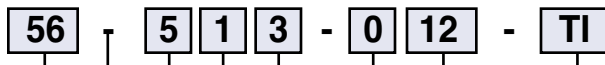


# D-Subminiature Part Numbering System

## Ordering Information

Example: **56-513-012-TI**



- 56** - Filtered D-Subminiature Connectors  
- Standard connector  
F - RoHS compliant version
- 5** - Product Series  
4 = Series F Ferrite  
5 = Series 500 Low Profile  
6 = Series 600 Hi-Density  
7 = Series 700 High Performance
- 1** - Shell Size  
Series 400 & Series 500  
0 = 9 Contacts  
1 = 15 Contacts  
2 = 25 Contacts  
3 = 37 Contacts  
Series 600 Hi-Density  
0 = 15 Contacts  
1 = 26 Contacts  
2 = 44 Contacts  
3 = 62 Contacts  
4 = 78 Contacts  
Series 700  
0 = 9 Contacts  
1 = 15 Contacts  
2 = 25 Contacts  
3 = 37 Contacts  
4 = 50 Contacts

- Contact Type/Termination**
- 1 = Pin to solder cup
  - 2 = Pin to 90° PCB mount
  - 3 = Socket to straight PCB mount
  - 4 = Socket to 90° PCB mount
  - 5 = Pin-socket adapter
  - 6 = Socket to solder cup
  - 7 = Pin to straight PCB mount
- Styles available for:
- Series 400 only 2, 3, 4, 7
  - Series 500 only 2, 3, 4 & 7
  - Series 600 only 1, 2, 3, 4, 5
  - Series 700 1 thru 7
- Note:** 1 can be Pin to solder cup or Pin to PCB for Series 700. See charts pages FC22-FC41.

- Line Filtering**
- 0 = All positions same
  - 9 = Special loading (Series 600 only)

- Capacitance Value**
- Series 400  
01 = Always
  - Series 500  
10 = 120 pF  
11 = 440 pF  
12 = 840 pF  
13 = 1000 pF  
14 = 1500 pF
  - Series 600  
15 = 85 pF FT  
16 = 180 pF FT  
18 = 1000 pF FT  
19 = 4000 pF FT  
20 = Insulated contact
  - Series 700  
See filter specification chart on page FC20 and select part numbers from Series 700 charts pages FC22-FC41.

## Options

- See options descriptions on page FC43 add suffix ending
- Series F**  
HD = Hi-Density (15 socket only)
- Series 500**  
TI = 4-40 threads on mounting flange (.125" hole if not selected)
- GBL** = Grounded board lock includes 4-40 threads (available only on 90° PCB)
- GBLF** = Grounded board lock and ferrite slab provides enhanced LC performance. (Available only on 90° PCB)
- Series 600 Hi-Density**  
LI = 4-40 UNC inserts  
S = Solder dipped tails  
50G = 50 μ (1.27 μm) gold  
GBL = Ground board lock
- Series 700**  
LI = 4-40 UNC inserts  
LIM = Metric M3.0 self-locking threads  
GB = Metal bracket provides ground connection, includes 4-40 self-locking threads (for right angle mount only)  
GBL = Grounded board lock (right angle)  
GBL6 = for .062" boards (straight PCB mount) (1.57mm)  
GBL9 = for .093" boards (straight PCB mount) (2.36mm)  
50G = 50 μ (1.27 μm) gold plating  
S = Solder dipped tails  
JS = Jackscrew mounting
- For option combinations, consult factory.

To assist your efforts in selecting the correct Filtered Connector to meet your needs, we have developed a part numbering system. All of the standard products are shown in their respective catalog pages.

Part number **56-513-012-TI** represents a Series 500 connector with 15 contacts in a socket to straight PCB mount configuration. All connector positions have a capacitance value of 840 pF and there are 4-40 threads on mounting flange.

# D-Subminiature Connector Options

## Threaded Inserts

Available on Series 500, 600 & 700

- #4-40 UNC or metric M3.0 threaded inserts in mounting flanges
- Allows ease of panel-assembly
- Plated steel inserts with last thread upset for torque

## Grounding Bracket

For right angle mount PCB connectors, available on Series 700

- Metal bracket in place of plastic
- Provides ground connection direct from circuit board
- Allows shell grounding to board
- Includes 4-40 threads

## Stand-off with Board Lock Feature

For straight PCB connectors, available on Series 700

- Allows shell grounding to board
- Eliminates stress on filter terminations
- Tin plated brass stand-off with snap-in feature
- Available for .062" (1.57mm) or .093" (2.36mm) thick boards

## Grounding Bracket with Board Lock

For right angle mount PCB connectors, available on Series 500 & 700

- Metal bracket provides grounding
- Snap-in, no hardware needed, 4-40 threads included
- For use on .062" (1.57mm) thick boards

## Gold Plating

Available on Series 600 & 700

- High reliability applications, 50µ" (1.27 µm) gold over 50µ" (1.27 µm) nickel

## Solder Dipped Tails

Available on Series 600 & 700 connectors

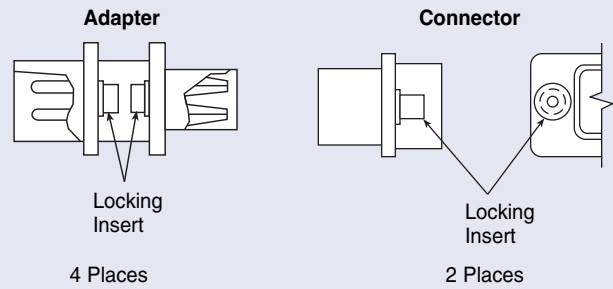
- Solder dipped tails added to standard gold flash

## Water Block

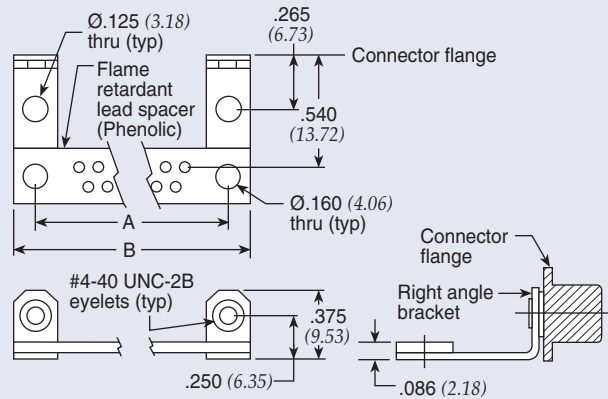
Consult API engineers for specifics.

- Internally sealed in accordance with NEMA Standard Rain Test section 6.4 (also UL50 part 28 ram test for submersion, section 6.10.1)

### Threaded Inserts

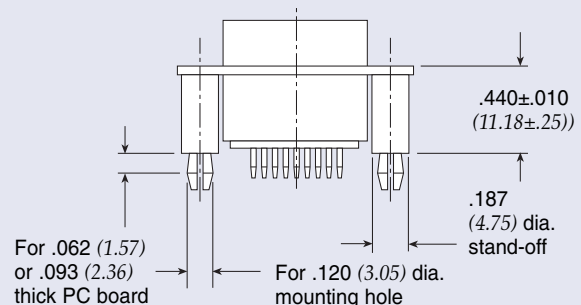


### Grounding Brackets

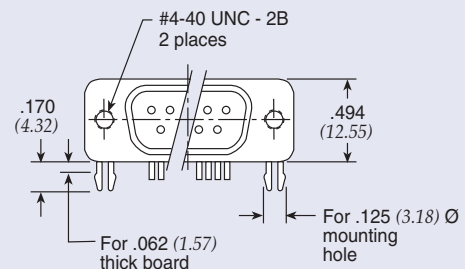


Size	A	B
9	.984 (24.99)	1.214 (30.84)
15	1.312 (33.32)	1.542 (39.17)
25	1.852 (47.04)	2.088 (53.04)
37	2.500 (63.50)	2.730 (69.34)

### Stand-off with Board Lock



### Grounding Bracket with Board Lock (see above for grounding bracket details)



Dimensions in inches (mm)

# Filtered Combo D-Subminiature Connectors

API's Spectrum Control line of filtered combo D-sub provide high insertion loss with capacitive filtering. These connectors are available with 20 Amp power contacts or 40 Amp power contacts. Configurations include male and female versions with straight PC terminals, right angle PC terminals or solder cup terminals. Standard D-sub shell sizes provide intermateability with unfiltered connectors. High strength epoxy potting protects ceramic elements.

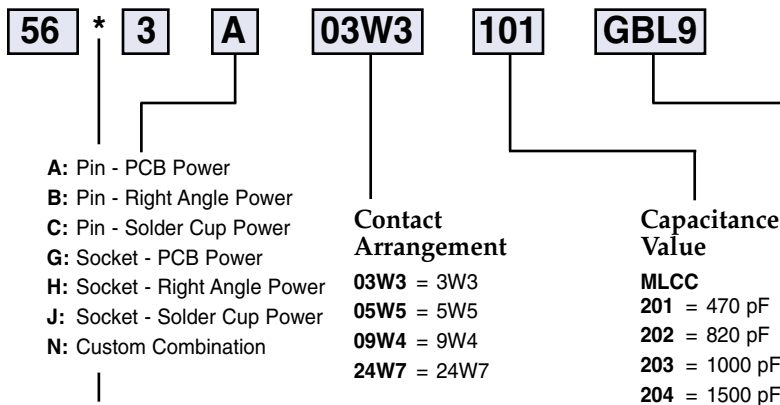
Capacitive filtering is available in 470, 820, 1000 and 1500 pF. Additional capacitance ranges and configurations can be provided upon request. Please consult factory for more information.

## Applications

- Telecommunications base station equipment
- Switching and transmission equipment
- Power supplies
- Industrial equipment
- Computer work stations

## Ordering Information

Example: **563A03W3101GBL9**



\* Insert "F" for RoHS compliant



## Mechanical Specifications

<i>Shell</i> . . . . .	Steel, tin plated
<i>Power Contacts</i> . . . . .	Brass, gold plated .000030 in. (0.762 μm) minimum
<i>Signal Contacts</i> . . . . .	Pin: brass, gold plated .000015 in. (0.762 μm) min. Socket: copper alloy, gold plated .000030 in. (0.762 μm) min.
<i>Insulator</i> . . . . .	Glass-filled polyester, flammability UL94V-0
<i>Operating Temperature</i> . . . . .	-55°C to +125°C
<i>Capacitors</i> . . . . .	MLCC

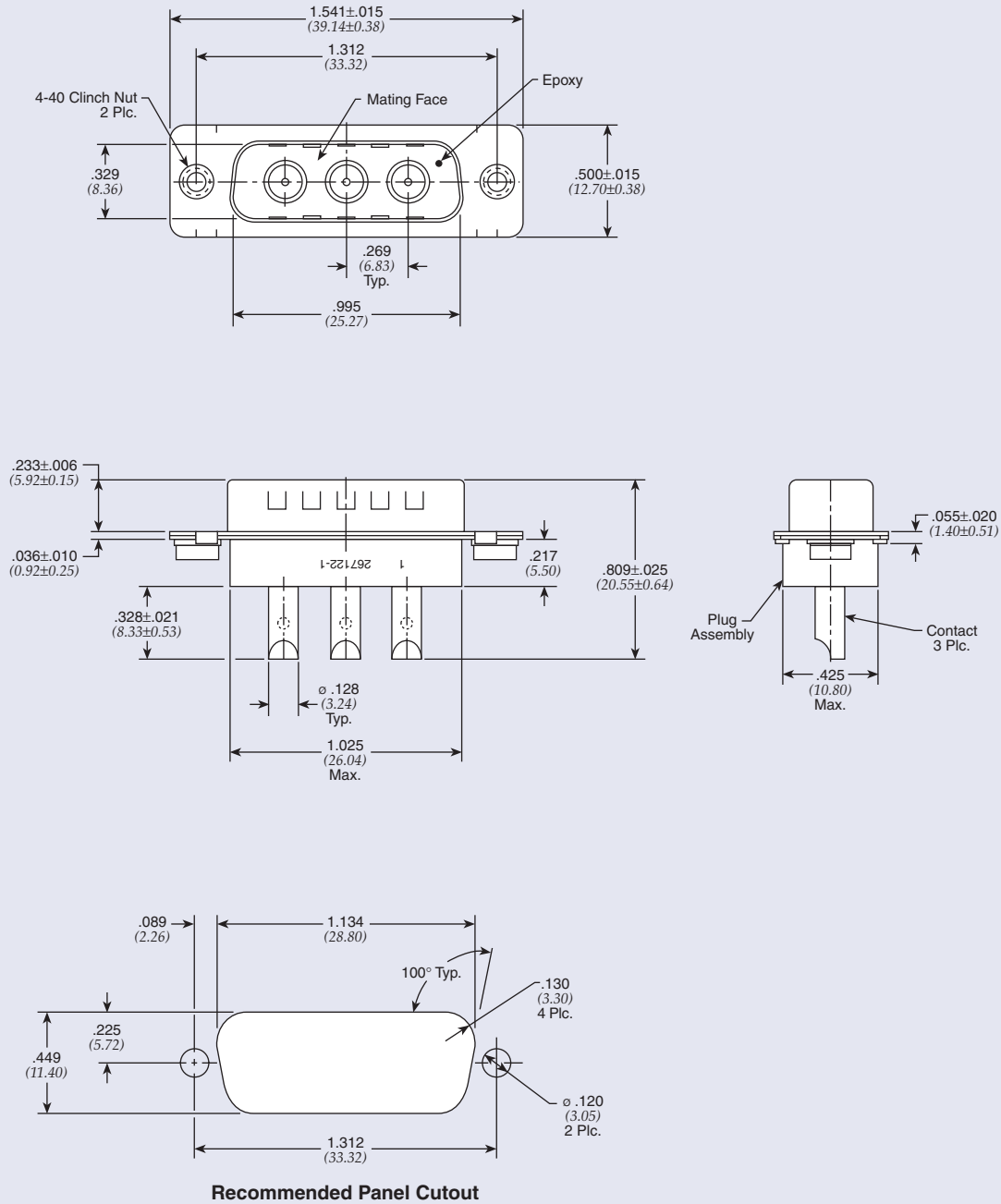
## Electrical Specifications

<i>Operating Voltage</i> . . . . .	200 VDC
<i>Current Rating*</i> . . . . .	40 Amp power/ 5 Amp signal
<i>Insulation Resistance</i> . . . . .	1 Gohm at 100 VDC
<i>Capacitance</i> . . . . .	See below for MLCC values. For other capacitance values contact factory.

*Dielectric Withstanding Voltage* . . . . . 600 VDC  
**\*30 Amp available. Consult factory.**

# Filtered Combo D-Subminiature Connectors 3W3

## Plug - Solder Cup

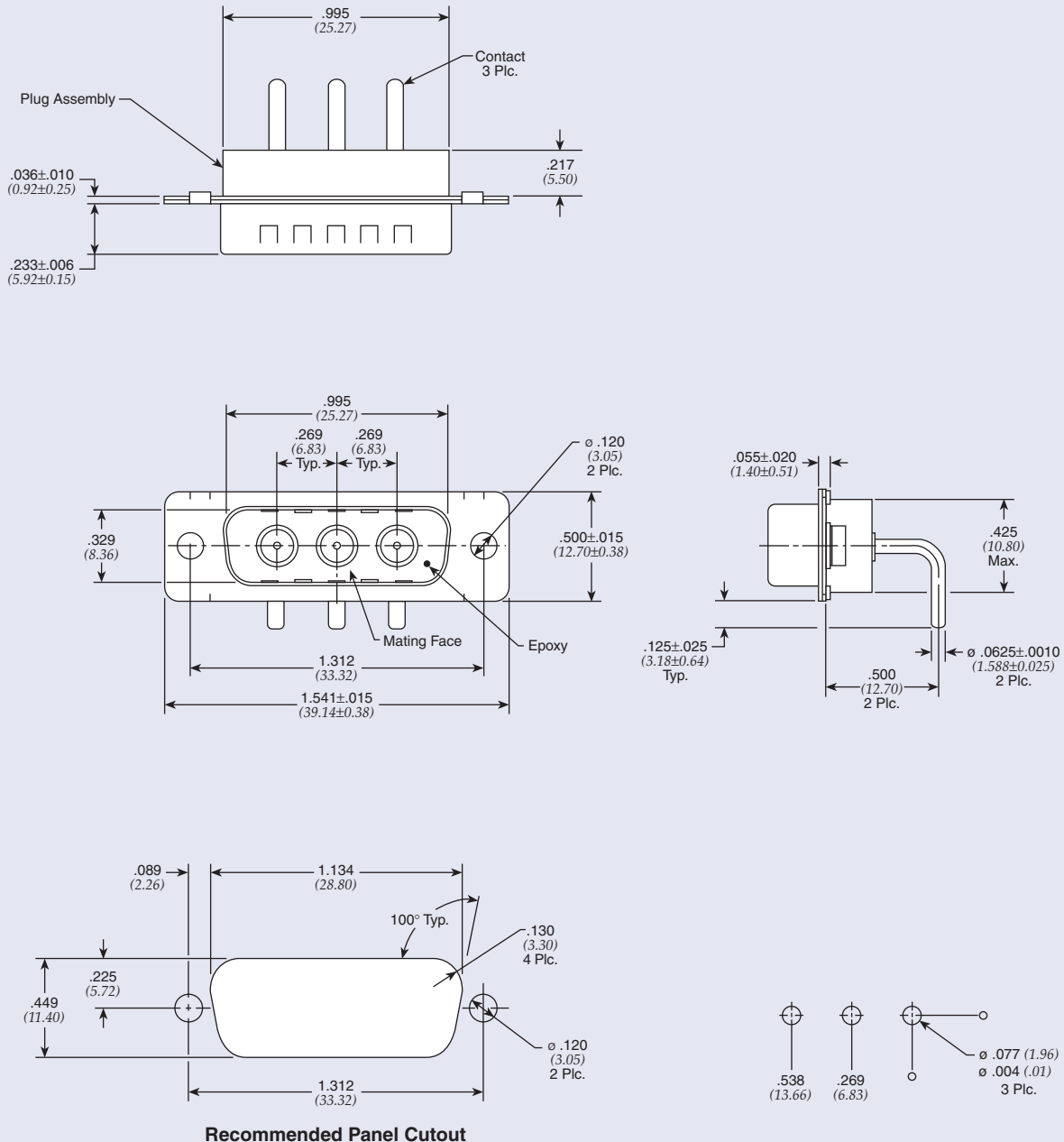


Only represents a few of our available configurations. Consult factory for more information.

Dimensions in inches (mm)

# Filtered Combo D-Subminiature Connectors 3W3

## Plug - Right Angle

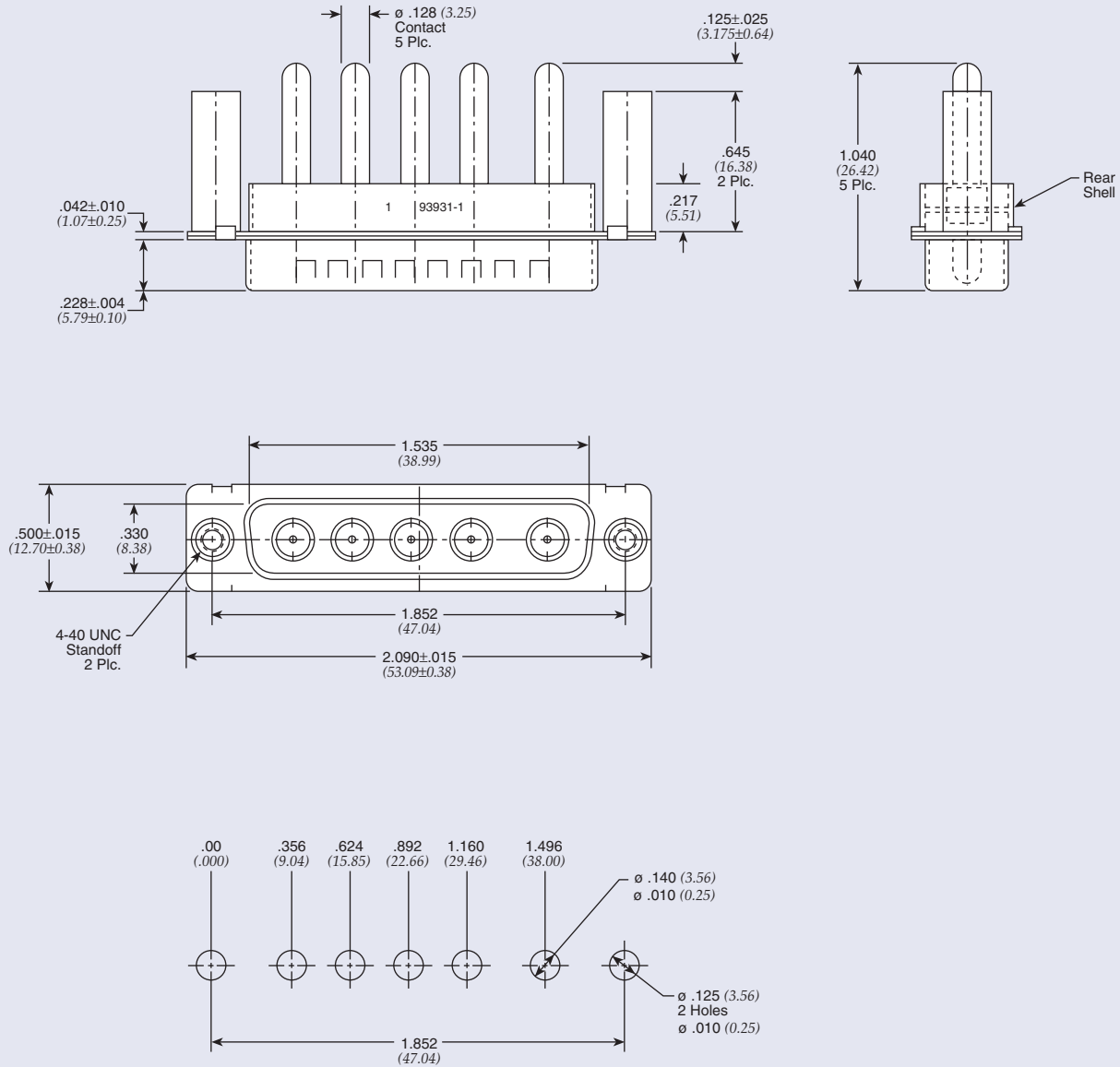


Only represents a few of our available configurations. Consult factory for more information.

Dimensions in inches (mm)

# Filtered Combo D-Subminiature Connectors 5W5

## Plug - Vertical



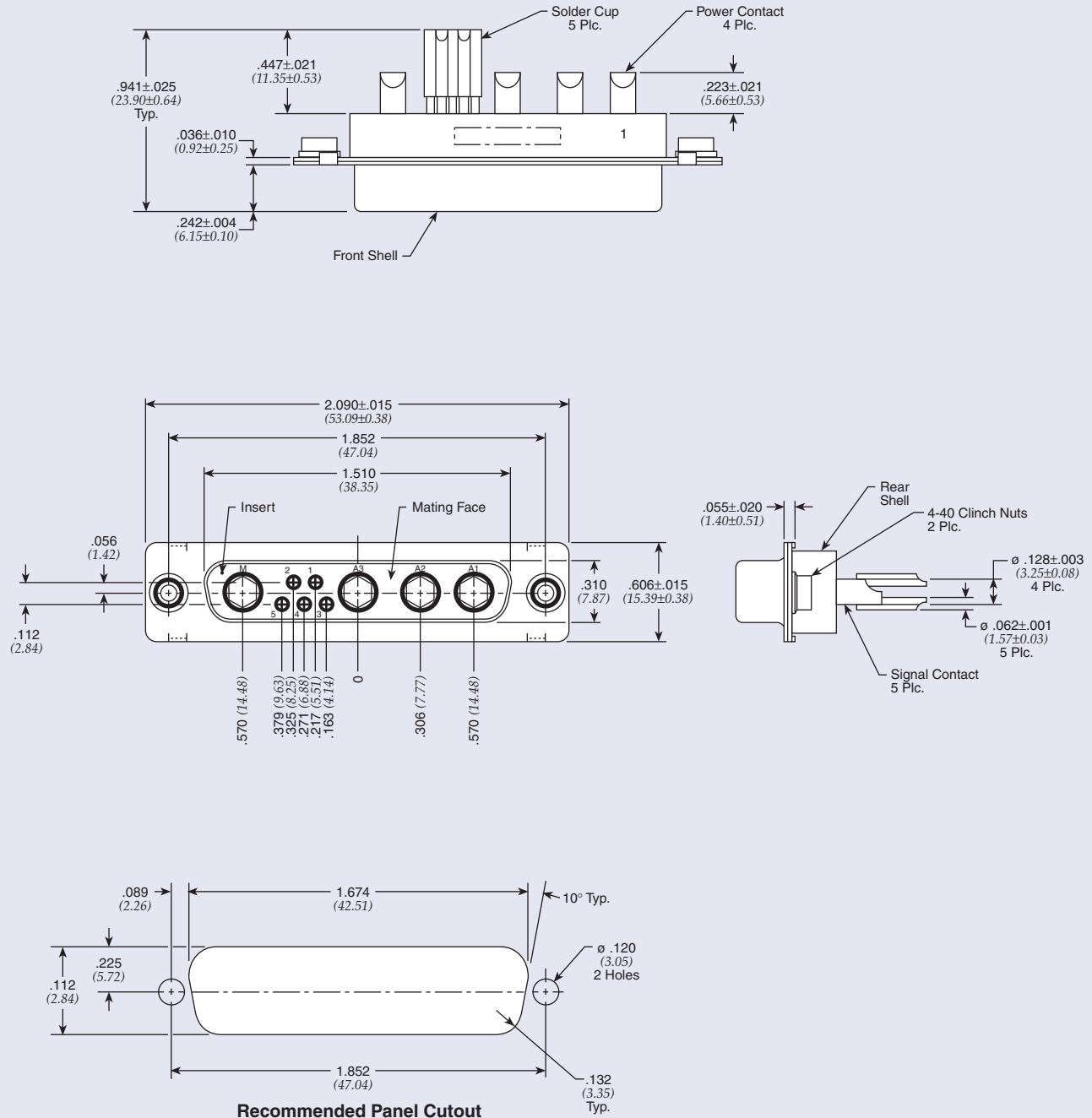
Recommended PCB Layout

Only represents a few of our available configurations. Consult factory for more information.

Dimensions in inches (mm)

# Filtered Combo D-Subminiature Connectors 9W4

## Socket - Solder Cup

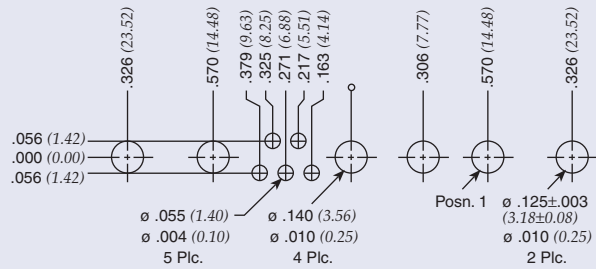
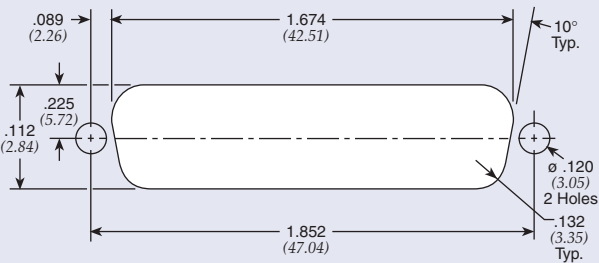
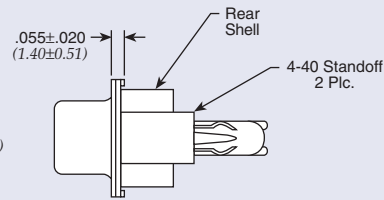
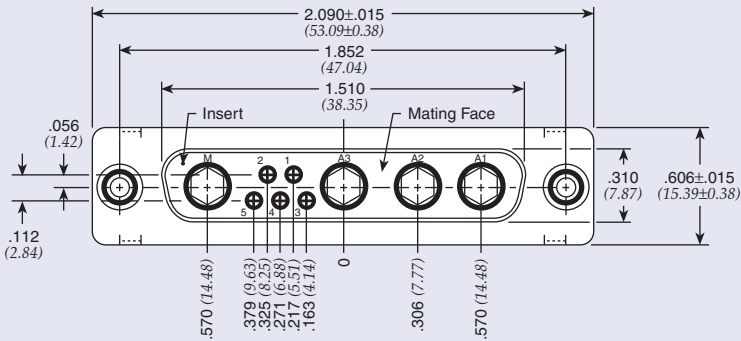
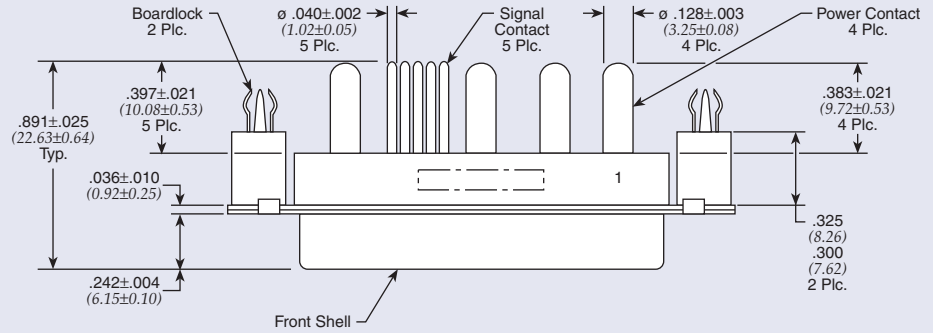


Only represents a few of our available configurations. Consult factory for more information.

Dimensions in inches (mm)

# Filtered Combo D-Subminiature Connectors 9W4

## Socket - Vertical



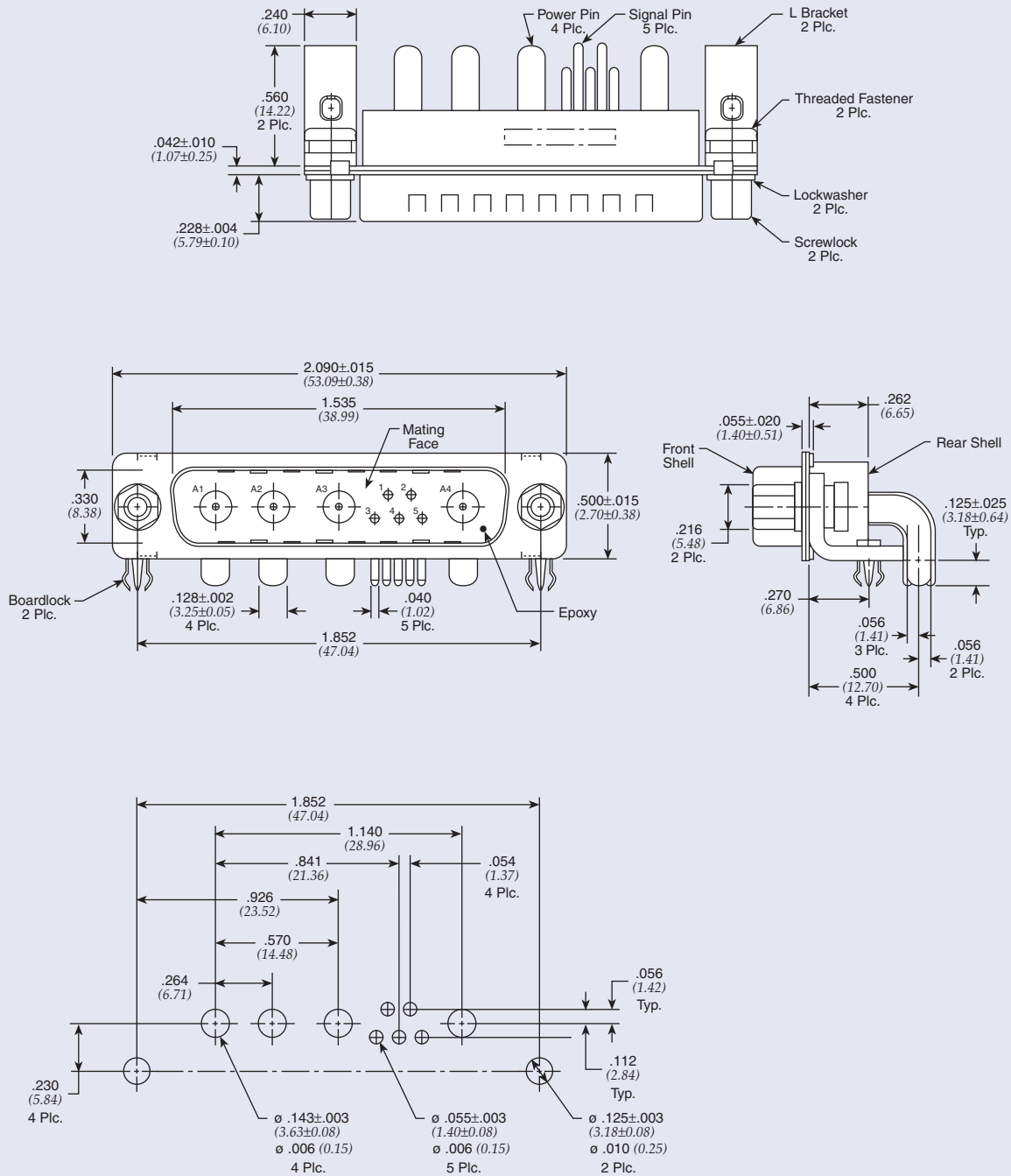
Only represents a few of our available configurations. Consult factory for more information.

Dimensions in inches (mm)



# Filtered Combo D-Subminiature Connectors 9W4

## Plug - Right Angle

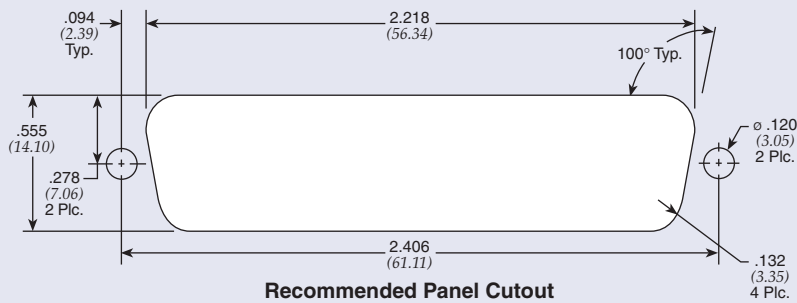
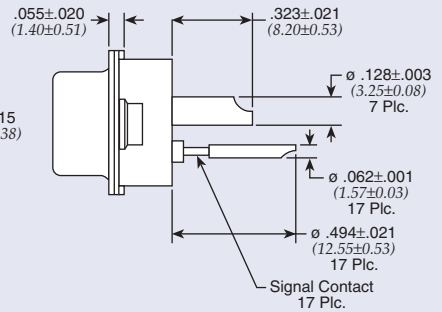
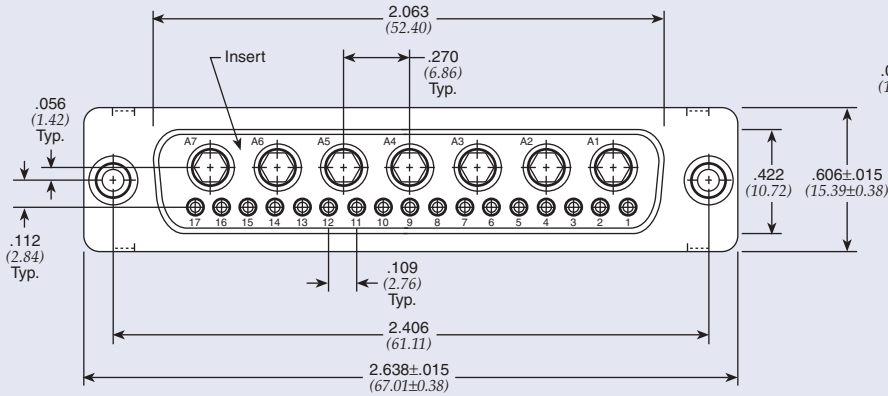
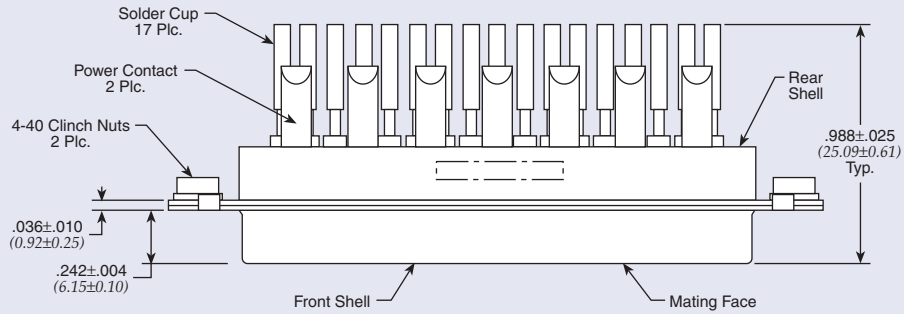


Only represents a few of our available configurations. Consult factory for more information.

Dimensions in inches (mm)

# Filtered Combo D-Subminiature Connectors 24W7

## Socket - Solder Cup



Only represents a few of our available configurations. Consult factory for more information.

Dimensions in inches (mm)

# D-Subminiature Adapter Test Kit & Hardware

## Adapter Test Kit

Specially designed for EMI evaluation process

- Male/female adapter part
- Easily plugged into equipment under testing conditions
- Ideal for new products and retrofitting
- Each adapter test kit includes:
  - 20 filtered adapters
  - Four shell sizes 9, 15, 25 and 37
  - Four filter ranges:
    - Series 700**
    - 310 pF Pi
    - 830 pF FT
    - 1000 pF Pi
    - 4000 pF Pi

## Ordering Information

Description	API Part Number
<b>Adapter test kit</b>	56-700-002
<b>Adapter test kit with Jackscrew</b> <i>Includes 40 pcs. 56-201-006</i>	56-700-002-JS
<b>Hexagonal Spacer</b>	56-201-001 (1 per)
<b>Jackscrew Mounting Hardware</b> <i>For .312" (7.92 mm) length</i>	56-201-004 (1 per)
<b>Jackscrew Mounting Hardware</b> <i>For .688" (17.47 mm) length</i>	56-201-006 (2 per)
<b>Tubular Spacer</b>	56-201-003 (1 per)



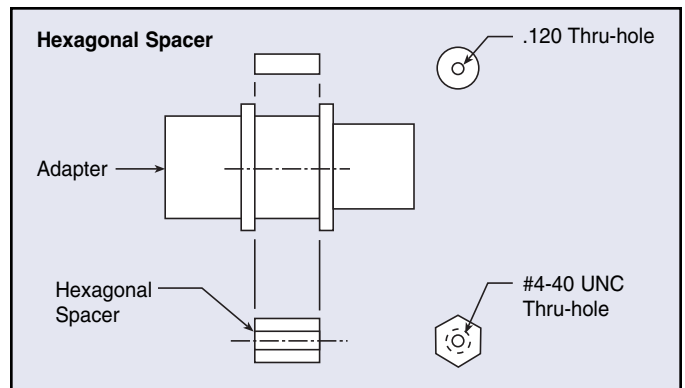
Adapter Test Kit

## Hardware

Designed to provide simple and effective mounting

### Hexagonal Spacer

- Tapped spacer fits between flanges
- Provide retrofit of 4-40" threads
- Two spacers per adapter required, packaged in bulk



## Jackscrew Mounting Hardware

- Male/female jackscrews
- Standard 4-40 threads for compatibility
- Two male thread lengths available
- Two screws per adapter required
- Lockwasher included, packaged in bulk