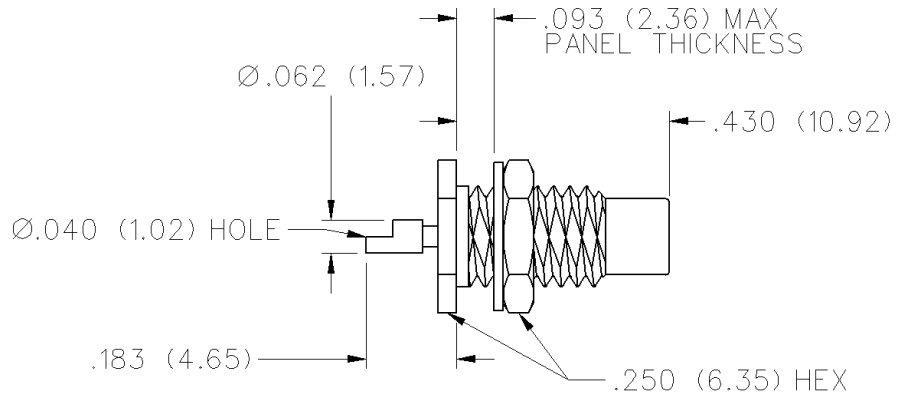


# 50 Ohm SMC Rear Mount Bulkhead Jack Receptacle

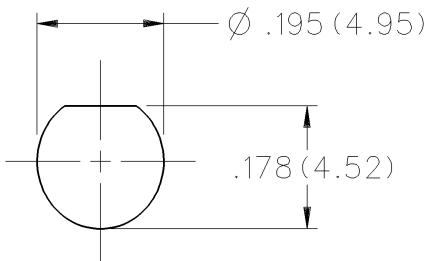


INCHES (MILLIMETERS)  
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST



| GOLD PLATED  | NICKEL PLATED |
|--------------|---------------|
| 131-6701-401 | 131-6701-406  |

Mounting hole layout



# SMC - 50 Ohm Connectors

## Specifications

INCHES (MILLIMETERS)  
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST

### ELECTRICAL RATINGS

**Impedance:** 50 ohms

**Frequency Range:** 0-10 GHz

| VSWR: (f = GHz)                  | Straight Cabled | Right Angle Cabled |
|----------------------------------|-----------------|--------------------|
| RG-178 cable                     | 1.25 + .04f     | 1.40 + .06f        |
| RG-316 and .086 semi-rigid cable | 1.20 + .04f     | 1.30 + .04f        |
| Uncabled receptacles             | N/A             |                    |
| Adapters                         | 1.20 + .04f     |                    |

**Working Voltage:** (Vrms maximum)†

| Connectors for Cable Type                              | Sea Level | 70K Feet |
|--|-----------|----------|
| RG-178   | 250       | 60       |
| RG-316, .086 semi-rigid uncabled receptacles, adapters | 335       | 85       |

**Dielectric Withstanding Voltage:** (VRMS minimum at sea level)†

|   |      |
|---|------|
| Connectors for RG-178   | 750  |
| Connectors for RG-316, .086 semi-rigid uncabled receptacles, adapters | 1000 |

**Corona Level:** (Volts minimum at 70,000 feet)†

|  |     |
|--|-----|
| Connectors for RG-178                  | 185 |
| Connectors for RG-316, .086 semi-rigid | 250 |
| Uncabled receptacles and adapters      | N/A |

**Insertion Loss:** (dB maximum, tested at 4 GHz)

|                                   |         |
|-----------------------------------|---------|
| Straight cable connectors         | 0.25 dB |
| Right angle cable connectors      | 0.50 dB |
| Uncabled receptacles and adapters | N/A     |

**Insulation Resistance:** 1000 megohms minimum

**Contact Resistance:** (milliohms maximum)

|  | Initial | After Environmental |
|--|---------|---------------------|
| Center contact (straight cabled connectors and uncabled receptacles) | 6.0     | 8.0                 |
| Center contact (right angle cabled connectors and adapters)          | 12.0    | 16.0                |
| Outer contact (gold plated connectors)                               | 1.0     | N/A                 |
| Outer contact (nickel plated connectors)                             | 2.5     | N/A                 |
| Braid to body (gold plated connectors)                               | 1.0     | N/A                 |
| Braid to body (nickel plated connectors)                             | 2.5     | N/A                 |
| <b>RF Leakage:</b> (dB minimum tested at 2.5 GHz)                    |         |                     |
| Cable connectors   | -55 dB  |                     |
| Uncabled receptacles and adapters                                    | N/A     |                     |

\*\* All gold plated parts include a .00005" min. nickel underplate barrier layer.

Avoid user injury due to misapplication. See safety advisory definitions inside front cover.

**RF High Potential Withstanding Voltage:** (Vrms minimum, tested at 4 and 7 MHz)†

|                                   |     |
|-----------------------------------|-----|
| Connectors for RG-178             | 500 |
| Connectors for RG-316             | 700 |
| Uncabled receptacles and adapters | 600 |

### MECHANICAL RATINGS

**Engagement Design:** MIL-C-39012, Series SMC

**Engagement/Disengagement Force:** 16 inch-ounce maximum torque

**Mating Torque:** 35 to 50 inch-ounce

**Coupling Proof Torque:** 100 inch-ounce minimum

**Coupling Nut Retention:** 35 pounds minimum

**Contact Retention:** 4 lbs. minimum axial force (captivated contacts)  
1 inch-ounce minimum torque (uncabled receptacles)

| Cable Retention:               | Axial Force* (pounds) | Torque (in-oz) |
|--------------------------------|-----------------------|----------------|
| Connectors for RG-178          | 10                    | N/A            |
| Connectors for RG-316          | 20                    | N/A            |
| Connectors for .086 semi-rigid | 30                    | 16             |

\* or cable breaking strength whichever is less

**Durability:** 500 cycles minimum

**ENVIRONMENTAL RATINGS** (Meets or exceeds the applicable paragraph of MIL-C-39012)

**Temperature Range:** - 65°C to + 165°C

**Thermal Shock:** MIL-STD-202, Method 107, Condition B

**Corrosion:** MIL-STD-202, Method 101, Condition B

**Shock:** MIL-STD-210, Method 213, Condition C

**Vibration:** MIL-STD-202, Method 204, Condition D

### MATERIAL SPECIFICATIONS

**Bodies:** Brass per QQ-B-626, gold plated\*\* per MIL-G-45204 .00001" min or nickel plated per QQ-N-290

**Contacts:** Male - brass per QQ-B-626, gold plated per MIL-G-45204 .00003" min.

Female - beryllium copper per QQ-C-530, gold plated per MIL-G-45204 .00003" min.

**Nut Retention Spring:** Beryllium copper per QQ-C-533, unplated

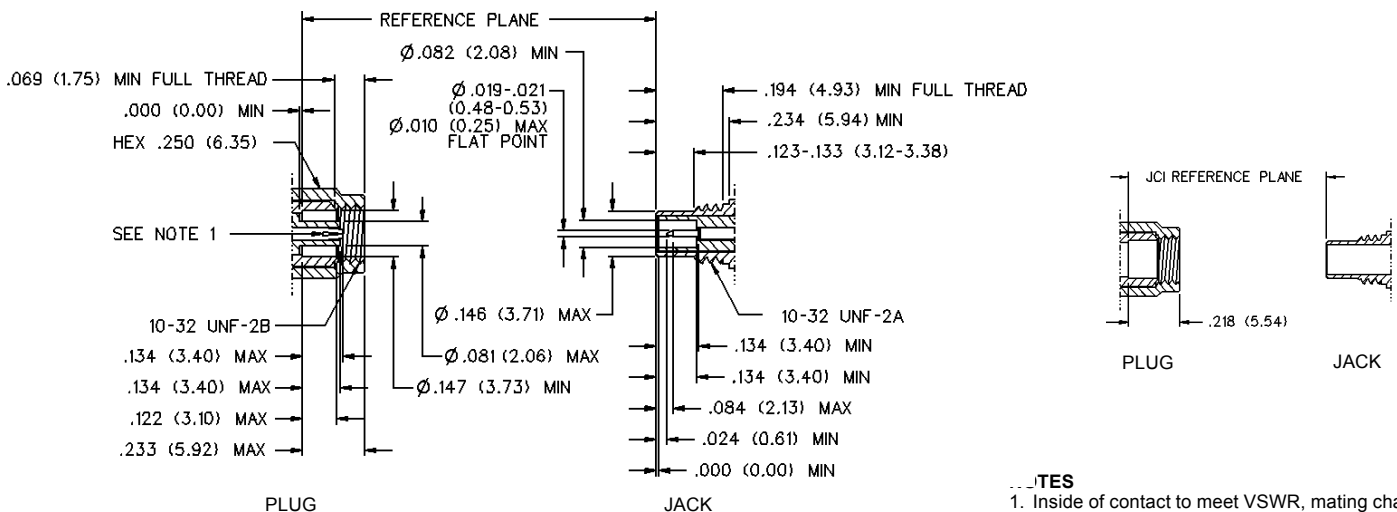
**Insulators:** PTFE fluorocarbon per ASTM D 1710 and ASTM D 1457

**Expansion Caps:** Brass per QQ-B-613, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

**Crimp Sleeves:** Copper per WW-T-799, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

**Mounting Hardware:** Brass (nuts) per QQ-B-626 or phosphor bronze (lockwashers) per QQ-B-750, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

### MATING ENGAGEMENT FOR SMC SERIES PER MIL-C-39012



#### REFERENCES

1. Inside of contact to meet VSWR, mating characteristics and connector durability when mated with a dia .019/.021 (0.48/0.53) male contact.