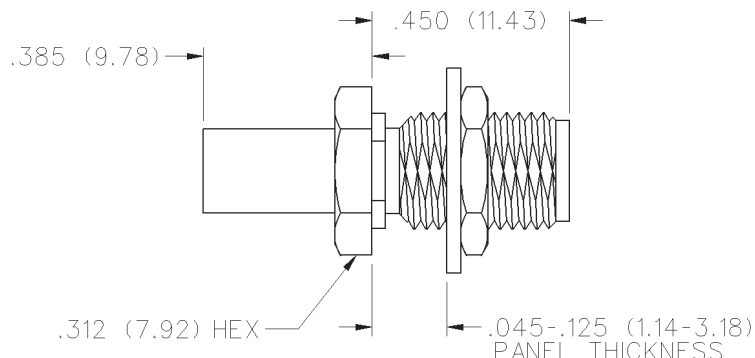


# SMA 50 Ohm Reverse Polarity Straight Crimp Type Bulkhead Jack - Captivated Contact



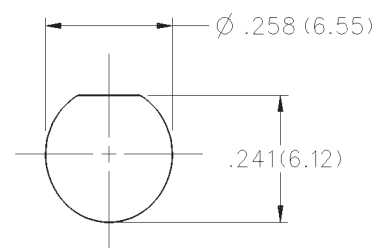
INCHES (MILLIMETERS)  
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST



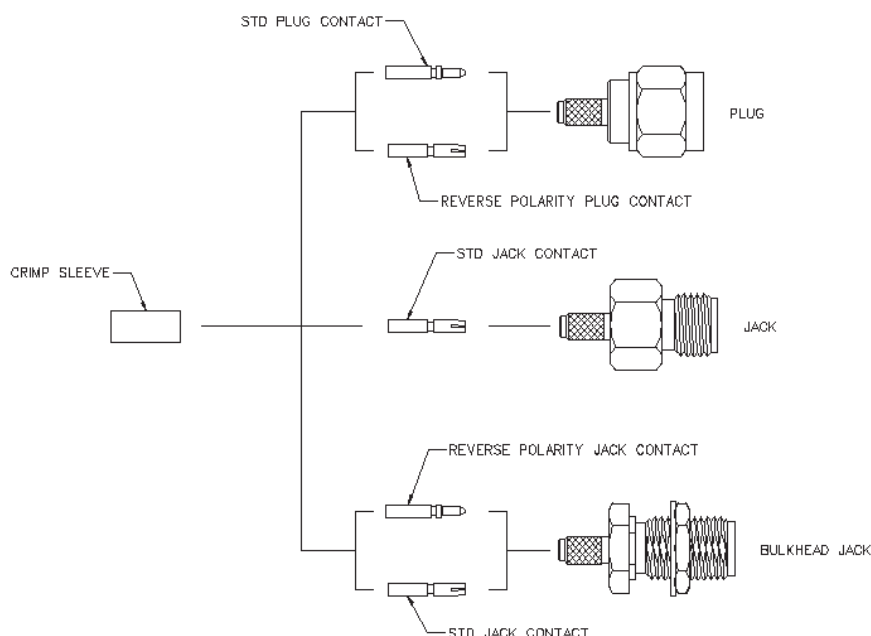
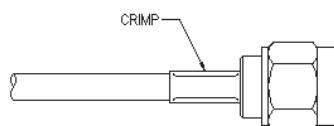
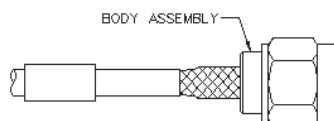
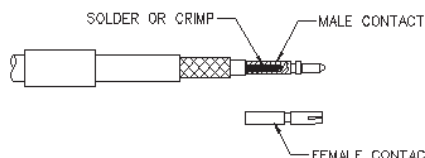
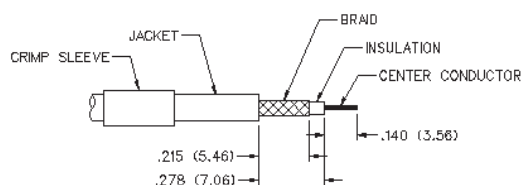
| CABLE TYPE       | GOLD PLATED  | NICKEL PLATED |
|------------------|--------------|---------------|
| RG-316 DS, 188DS | 142-4304-401 | 142-4304-406  |

1. Identify connector parts. (3 piece parts - except bulkhead)
2. Strip cable to dimensions shown. Do not nick braid or center conductor. Tin center conductor if contact will be solder attached. Do not tin center conductor if contact is to be crimp attached. When stripping LMR-100 low loss cable, remove foil back to where cable jacket is stripped. A wire stripper of correct size is recommended for this step. Slide heat shrink (as applicable) and crimp sleeve onto jacket of cable.
3. Assemble contact onto cable as shown.  
**Solder Attachment:** Solder contact to center conductor through solder hole using .020 (0.51) diameter solder. Use a minimum amount of solder for a good joint.  
**Crimp Attachment:** Crimp contact to center conductor using Johnson Components™ Hand Tool 144-0000-910, setting #2, with positioner 141-0000-907. Crimp location should be centered between end of contact and X-hole. Crimp attachment to solid center conductor cables is not recommended.
4. Flare braid and slide body assembly over contact and under braid. Then seat body assembly firmly onto contact. The cable may have to be held in a clamping fixture. Arrange braid uniformly around crimp stem. Slide crimp sleeve forward and crimp using recommended crimp tool. Slide heat shrink forward and shrink (as applicable).

Mounting hole layout



| CABLE GROUP     | PART NUMBER      | CRIMP HEX   |
|-----------------|------------------|-------------|
| RG-316DS, 188DS | 142-4304-401/406 | .151 (3.83) |



# SMA Reverse Polarity - 50 Ohm

## Specifications



INCHES (MILLIMETERS)  
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST

### ELECTRICAL RATINGS

**Impedance:** 50 ohms

**Frequency Range:**

|                                 |            |
|---------------------------------|------------|
| Flexible cable connectors ..... | 0-12.4 GHz |
| Uncabled receptacles .....      | 0-18.0 GHz |

**VSWR:** (f = GHz)

|                              | Straight          | Right Angle       |
|------------------------------|-------------------|-------------------|
|                              | Cabled Connectors | Cabled Connectors |
| RG-316, LMR-100 cable .....  | 1.15 + .02f       | 1.15 + .03f       |
| RG-58, LMR-195 cable .....   | 1.17 + .025f      | 1.17 + .06f       |
| RG-142 cable .....           | 1.17 + .02f       | 1.15 + .03f       |
| LMR-200, LMR-240 cable ..... | 1.10 + .03f       | 1.10 + .06f       |
| Uncabled receptacles .....   | N/A               |                   |

**Working Voltage:** (Vrms maximum)<sup>†</sup>

| Connectors for Cable Type                       | Sea Level | 70K Feet |
|-------------------------------------------------|-----------|----------|
| RG-316; LMR-100, 195, 200 .....                 | 250       | 65       |
| RG-58, RG-142, LMR-240, uncabled receptacles .. | 335       | 85       |

**Dielectric Withstanding Voltage:** (VRMS minimum at sea level)<sup>†</sup>

|                                                                |      |
|----------------------------------------------------------------|------|
| Connectors for RG-316; LMR-100, 195, 200 .....                 | 750  |
| Connectors for RG-58, RG-142, LMR-240, uncabled receptacles .. | 1000 |

**Corona Level:** (Volts minimum at 70,000 feet)<sup>†</sup>

|                                                                |     |
|----------------------------------------------------------------|-----|
| Connectors for RG-316, LMR-100, 195, 200 .....                 | 190 |
| Connectors for RG-58, RG-142, LMR-240, uncabled receptacles .. | 250 |

**Insertion Loss:** (dB maximum)

|                                                      |                                        |
|------------------------------------------------------|----------------------------------------|
| Straight flexible cable connectors .....             | .06 $\sqrt{f}$ (GHz), tested at 6 GHz  |
| Right angle flexible cable connectors .....          | 0.15 $\sqrt{f}$ (GHz), tested at 6 GHz |
| Low loss flexible straight cable connectors .....    | 0.06 $\sqrt{f}$ (GHz), tested at 1 GHz |
| Low loss flexible right angle cable connectors ..... | 0.15 $\sqrt{f}$ (GHz), tested at 1 GHz |
| Uncabled receptacles, field replaceable .....        | N/A                                    |

**Insulation Resistance:** 5000 megohms minimum

**Contact Resistance:** (milliohms maximum)

|                                                                            | Initial | After Environmental |
|----------------------------------------------------------------------------|---------|---------------------|
| Center contact (straight cabled connectors and uncabled receptacles) ..... | 3.0*    | 4.0*                |
| Center contact (right angle cabled connectors) .....                       | 4.0     | 6.0                 |
| Outer contact (all connectors) .....                                       | 2.0     | N/A                 |
| Braid to body (gold plated connectors) .....                               | 0.5     | N/A                 |
| Braid to body (nickel plated connectors) .....                             | 5.0     | N/A                 |

**RF Leakage:** (dB minimum, tested at 2.5 GHz)

|                                         |        |
|-----------------------------------------|--------|
| Flexible cable connectors .....         | -60 dB |
| Uncabled receptacles and adapters ..... | N/A    |

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

|                                                                 |     |
|-----------------------------------------------------------------|-----|
| Connectors for RG-316; LMR-100, 195, 200 .....                  | 500 |
| Connectors for RG-58, RG-142, LMR-240, uncabled receptacles ... | 670 |

### MECHANICAL RATINGS

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

**Engagement/Disengagement Force:** 2 inch-pounds maximum

**Mating Torque:** 7 to 10 inch-pounds

**Bulkhead Mounting Nut Torque:** 15 inch-pounds

**Coupling Proof Torque:** 15 inch-pounds minimum

**Coupling Nut Retention:** 60 pounds minimum

**Contact Retention:**

|                                                    |
|----------------------------------------------------|
| 6 lbs. minimum axial force (captivated contacts)   |
| 4 inch-ounce minimum torque (uncabled receptacles) |

| Cable Retention:                     | Axial Force* (pounds) | Torque (in-oz) |
|--------------------------------------|-----------------------|----------------|
| Connectors for RG-316, LMR-100 ..... | 20                    | N/A            |
| Connectors for LMR195, 200 .....     | 30                    | N/A            |
| Connectors for RG-58, LMR-240 .....  | 40                    | N/A            |
| Connectors for RG-142 .....          | 45                    | N/A            |

\*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-202, Method 213, Condition I

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

**Moisture Resistance:** MIL-STD-202, Method 106

### 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

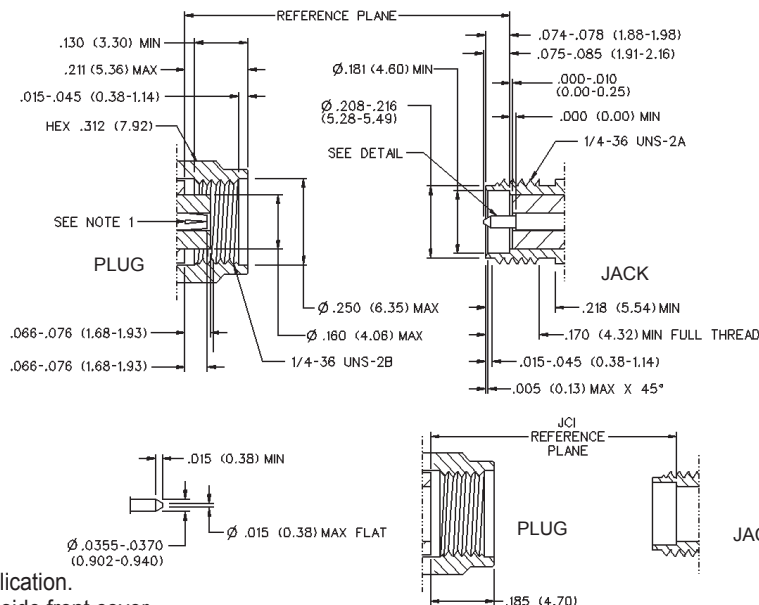
**Insulators:** PTFE fluorocarbon per ASTM D 1710 and ASTM D 1457 or Tefzel per ASTM D 3159

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

**Mounting Hardware:** Brass per QQ-B-626 or QQ-B-613, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

## MATING ENGAGEMENT FOR SMA REVERSE POLARITY SERIES PER FCC RULE 15 NON-STANDARD INTERFACE



### NOTES

1. ID OF CONTACT TO MEET VSWR, CONTACT RESISTANCE AND INSERTION WITHDRAWAL FORCES WHEN MATED WITH DIA .0355-.0370 MALE PIN.

<sup>†</sup>Avoid user injury due to misapplication.  
See safety advisory definitions inside front cover.