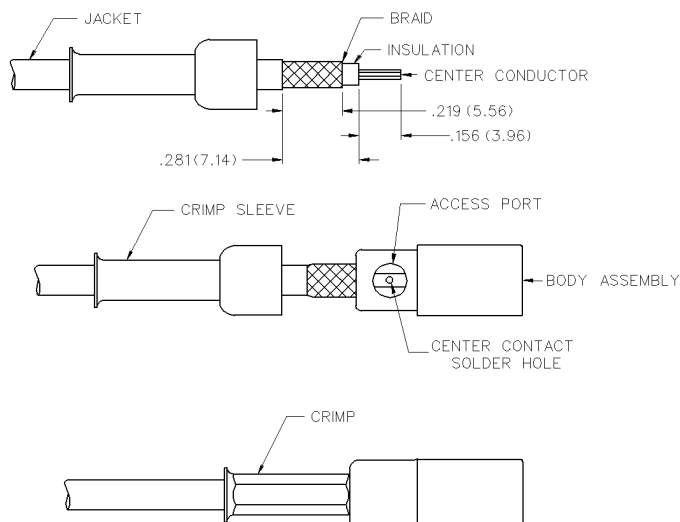
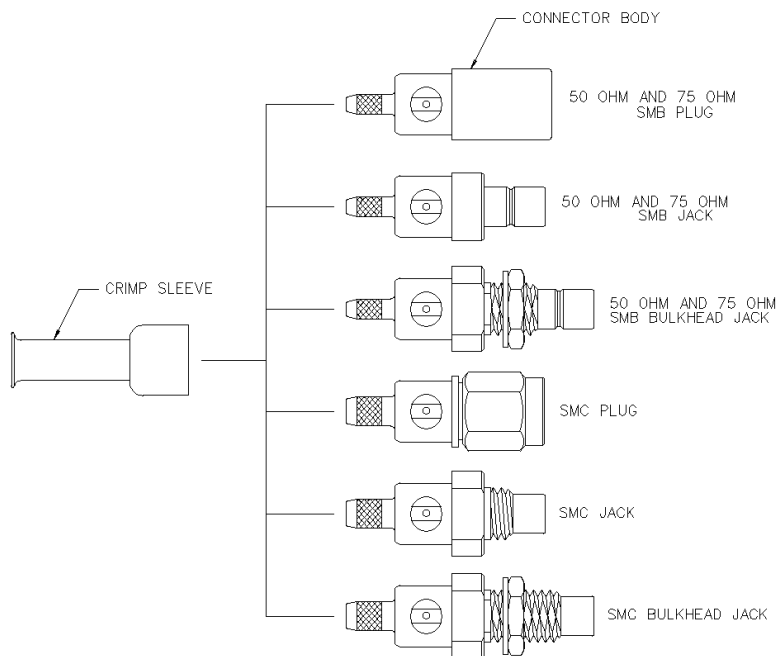
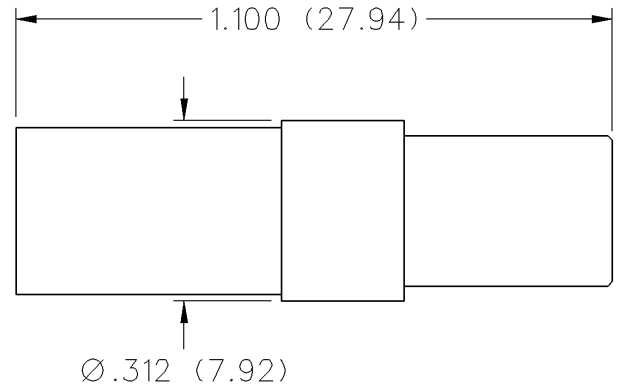


# 75 Ohm SMB Straight Crimp Type Plug - Captivated Contact



| CABLE TYPE | GOLD PLATED  | NICKEL PLATED |
|------------|--------------|---------------|
| RG-59      | 131-8409-001 | 131-8409-006  |



1. Identify connector parts. (2 piece parts - except bulkhead)
2. Strip cable to dimensions shown. Do not nick braid or center conductor. A wire stripper of correct size is recommended for this step. Twist stranded center conductor into tight bundle and tin. Slide crimp sleeve onto cable as shown.
3. Flare braid and slide cable into body making certain that the cable insulation bottoms in center contact.

**Solder Attachment:** Solder center conductor to contact through the side access ports and hole in center contact. Use a minimum amount of solder for a full fillet joint. **.020 (0.51) diameter solder is recommended.**

Crimp 50 Ohm connector contacts with 141-0000-911 die set in 144-900 tool frame. Crimp 75 Ohm connector contacts with 141-0000-924 die set in 144-0000-900 tool frame.

| CABLE GROUP | PART NUMBER      | CRIMP HEX   |
|-------------|------------------|-------------|
| RG-59       | 131-8409-001/006 | .255 (6.48) |

# Mini-75 Ohm SMB Connectors

## Specifications

### ELECTRICAL RATINGS

**Impedance:** 75 ohms

**Frequency Range:** 0-2 GHz

**VSWR:** f = GHz

RG-179, RG-59, Belden 735A cable:

|                                     |             |
|-------------------------------------|-------------|
| Straight cabled connectors .....    | 1.25 + .04f |
| Right angle cabled connectors ..... | 1.35 + .04f |
| Adapters .....                      | 1.20 + .04f |
| Type N Adapters .....               | 1.05 + .01f |
| Matching pad 50 ohm/75 ohm .....    | 1.05 + .1f  |
| Loads .....                         | 1.05 + .01f |

Uncabled receptacles, opens, shorts .....

**Working Voltage:** (Vrms maximum)†

**Connectors for Cable Type**

**Sea Level**      **70K Feet**

|                                                                     |     |     |
|---------------------------------------------------------------------|-----|-----|
| RG-179, RG-59, Belden 735A,<br>uncabled receptacles, adapters ..... | 335 | 85  |
| Open, shorts, loads, matching pad .....                             | N/A | N/A |

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

|                                                                                    |      |
|------------------------------------------------------------------------------------|------|
| Connectors for RG-179, RG-59, Belden 735A,<br>uncabled receptacles, adapters ..... | 1000 |
| Open, shorts, loads, matching pad .....                                            | N/A  |

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

Connectors for RG-179, RG-59, Belden 735A .....

Uncabled receptacles, adapters, open, shorts, loads, matching pad: N/A

**Electrical Length:** Open ± 1.5° (± 5.2° relative to short)

Short ± 1.5° (± 5.2° relative to open)

Adapters ± 5.2° (N/A for Jack-Bulkhead Jack and N Types)

**Insertion Loss:** (dB maximum, tested at 1.5 GHz)

|                                                            |              |
|------------------------------------------------------------|--------------|
| Straight cable connectors .....                            | 0.30 dB      |
| Right angle cable connectors .....                         | 0.60 dB      |
| Matching pad .....                                         | 6 dB nominal |
| Uncabled receptacles, adapters, opens, shorts, loads ..... | N/A          |

**Insulation Resistance:** 1000 megohms minimum

**Contact Resistance:** (milliohms maximum)

**Initial**      **After  
Environmental**

|                                                                                                  |      |      |
|--------------------------------------------------------------------------------------------------|------|------|
| Center contact (straight cabled connectors,<br>uncabled receptacles, opens, shorts, loads) ..... | 6.0  | 8.0  |
| Center contact (right angle cabled<br>connectors and adapters) .....                             | 12.0 | 16.0 |
| Outer contact (gold plated connectors) .....                                                     | 1.0  | 1.5  |
| Outer contact (nickel plated connectors) .....                                                   | 2.5  | 3.5  |
| Braid to body (gold plated connectors) .....                                                     | 1.0  | N/A  |
| Braid to body (nickel plated connectors) .....                                                   | 2.5  | N/A  |

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

|                                                                         |        |
|-------------------------------------------------------------------------|--------|
| Cable connectors .....                                                  | -55 dB |
| Uncabled receptacles, adapters opens, shorts, loads, matching pad ..... | N/A    |

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

|                                                 |     |
|-------------------------------------------------|-----|
| Connectors for RG-179, RG-59, Belden 735A ..... | 700 |
| Uncabled receptacles and adapters .....         | 600 |
| Opens, shorts, loads, matching pad .....        | N/A |

**Power Rating:** (Loads and matching pad only) 1.0 watt at +25°C derated linearly to .5 watt at +125°C

### MECHANICAL RATINGS

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

**Engagement/Disengagement Force:** 2 pounds minimum to 14 pounds maximum axial force

**Contact Retention:** 4 lbs. minimum axial force (captivated contacts)

1 inch-ounce minimum torque (uncabled receptacles)

**Cable Retention:**      Axial Force\*      Torque  
(pounds)      (in-oz)

Connectors for RG-179, Belden 735A .....

Connectors for RG-59 .....

\* or cable breaking strength whichever is less.

**Durability:** 500 cycles minimum

### ENVIRONMENTAL RATINGS (Meets or exceed the applicable paragraph of MIL-C-39012)

**Temperature Range:** - 65°C to +165°C -- Connectors and adapters

- 65°C to +125°C -- Loads, matching pad

20°C to 26°C -- Opens, shorts

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

(N/A opens, shorts, loads, matching pad)

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

(N/A opens, shorts, loads, matching pad)

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

(N/A opens, shorts, loads, matching pad)

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

(N/A opens, shorts, loads, matching pad)

**Temperature Coefficient:** (Loads only) ± 300 ppm/°C

### MATERIAL SPECIFICATIONS

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

N type adapters stainless steel per QQ-S-763, passivated per

MIL-F-14072

**Contacts:** Male & Female - beryllium copper per QQ-C-530, gold plated per MIL-G-45204 .00003" min.

**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

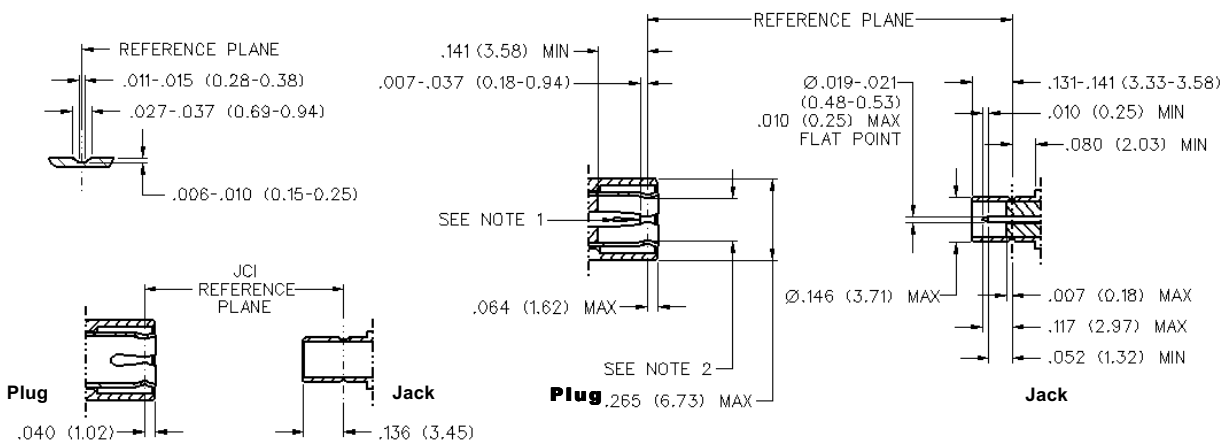
**Crimp Sleeves:** Copper per WW-T-799, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

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

\*\* 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.

### MATING ENGAGEMENT FOR MINI-75 OHM SMB SERIES (INTERMATEABLE WITH STANDARD 50 OHM SMB)



- NOTES:
1. ID of contact to meet VSWR, mating characteristics and connector durability when mated with a dia .019-.021 (0.48/0.53) male contact.
  2. Must meet the force to engage and disengage when mated with mating part.