

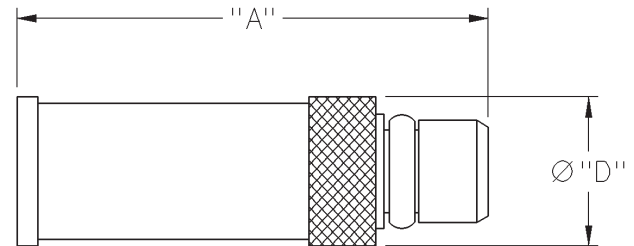
# MMCX - 50 Ohm Connectors

## Straight Crimp Type Plug -

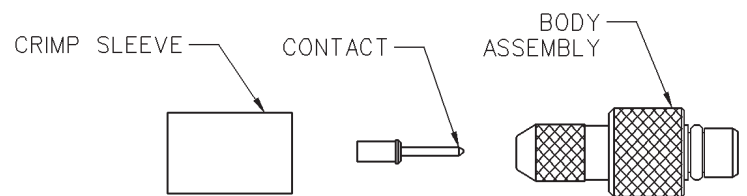
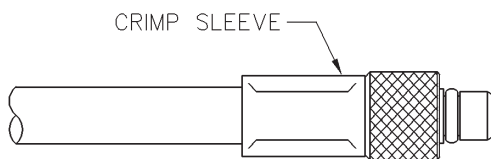
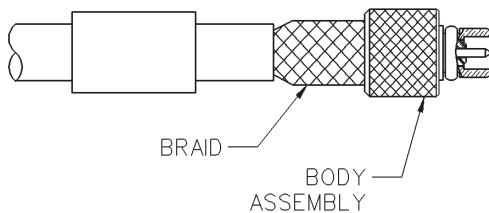
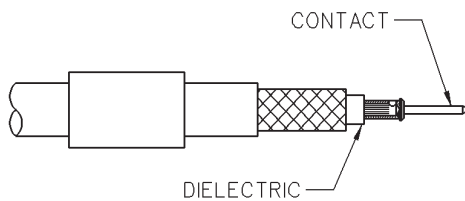
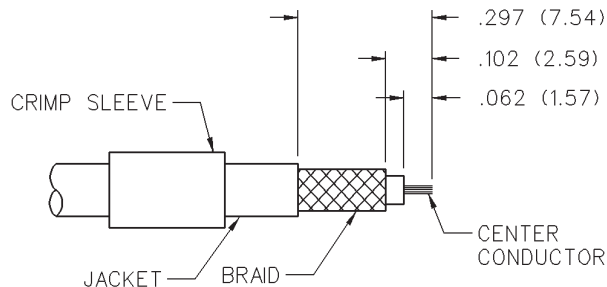
### Solder or Crimp Captivated Contact



INCHES (MILLIMETERS)  
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST



| CABLE TYPE    | PART NUMBER  | "A"          | "D"         | TERMINATION  |
|---------------|--------------|--------------|-------------|--------------|
| RG 179/u, 187 | 135-3433-001 | .509 (12.93) | .173 (4.39) | Crimp Sleeve |



1. Identify connector parts. (3 piece parts)
2. Strip cable jacket to dimensions shown. Do not nick braid or center conductor during strip operations. Tin center conductor if contact will be solder attached. Do not tin center conductor if contact is to be crimp attached. Slide crimp sleeve onto cable jacket.
3. Assemble contact onto cable as shown.  
**Solder attachment:** Solder contact to center conductor. Care should be taken that excess solder is not applied.  
**Crimp attachment:** Crimp contact to center conductor using Johnson Components™ hand tool 140-0000-952 and die set 140-0000-953. Crimp location should be centered between end of contact and cross-hole. Crimp attachment to solid center conductor cables is not recommended.
4. Slide body assembly over contact and under braid, then seat firmly onto contact as shown. The body assembly will "snap" over the contact barb. The cable may have to be held in a soft jawed clamping fixture. Slide crimp sleeve forward and crimp using recommended crimp die hex.

| CABLE GROUP   | PART NUMBER  | CRIMP HEX   |
|---------------|--------------|-------------|
| RG 179/u, 187 | 135-3433-001 | .128 (3.25) |

# MMCX - 50 Ohm Connectors

## Specifications



INCHES (MILLIMETERS)  
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST

### ELECTRICAL RATINGS

**Impedance:** 50 ohms

**Frequency Range:** Connectors ..... 0-6 GHz  
Dummy loads ..... 0-1 GHz

**VSWR:** (f = GHz)

|                                | Straight<br>Cabled Connectors | Right Angle<br>Cabled Connectors |
|--------------------------------|-------------------------------|----------------------------------|
| .047 dia flexible .....        | 1.20                          | 1.14 + .07f                      |
| RG-178, RG-316, RG-316DS ..... | 1.20                          | 1.25                             |
| .086 semi-rigid .....          | 1.15                          | 1.15                             |

Uncabled receptacles, dummy loads ..... N/A

**Working Voltage:** Connectors ..... 170 Vrms at sea level†  
Dummy loads ..... N/A

**Dielectric Withstanding Voltage:** Connectors...500 Vrms at sea level†  
Dummy loads ..... N/A

**Insulation Resistance:** 1000 megohms min

**Contact Resistance:** (milliohms maximum)

|  | Initial | After<br>Environmental |
|--|---------|------------------------|
|--|---------|------------------------|

|                                                                               |     |     |
|-------------------------------------------------------------------------------|-----|-----|
| Center contact (straight cabled connectors<br>and uncabled receptacles) ..... | 5.0 | 8.0 |
|-------------------------------------------------------------------------------|-----|-----|

|                                                         |     |      |
|---------------------------------------------------------|-----|------|
| Center contact (right angle cabled<br>connectors) ..... | 5.0 | 15.0 |
|---------------------------------------------------------|-----|------|

|                                      |     |     |
|--------------------------------------|-----|-----|
| Outer contact (all connectors) ..... | 1.0 | 1.5 |
|--------------------------------------|-----|-----|

|                     |     |     |
|---------------------|-----|-----|
| Braid to body ..... | 1.5 | N/A |
|---------------------|-----|-----|

**Corona Level:** Connectors ..... 190 volts min at 70,000 feet†  
Dummy loads ..... N/A

**Insertion Loss:** (dB max tested at 1 GHz)

|                                         |     |
|-----------------------------------------|-----|
| Straight cabled connectors .....        | 0.1 |
| Right angle cabled connectors .....     | 0.2 |
| Uncabled receptacles, dummy loads ..... | N/A |

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

|                                 |        |
|---------------------------------|--------|
| Flexible cable connectors ..... | -60 dB |
| .086 semi-rigid .....           | -70 dB |
| Dummy loads .....               | N/A    |

**RF High Potential Withstanding Voltage:** (400 Vrms at 4 and 7 MHz)†

**Power Rating (Dummy Load):** - 0.5 watt @ +25°C, derated to 0.25  
watt @ +125° C

†Avoid user injury due to misapplication.

See safety advisory definitions inside front cover.

### MECHANICAL RATINGS

**Engagement Design:** Series MMCX

**Engagement/Disengagement Force:** 8 lbs. max axial engagement  
1.4 lbs. min axial disengagement

**Contact Retention:** 2.0 lbs. minimum axial force

| Cable Retention:                     | Axial Force*<br>(pounds) | Torque<br>(in-oz) |
|--------------------------------------|--------------------------|-------------------|
| Connectors for .047 flexible .....   | 3.5                      | N/A               |
| Connectors for RG-178 .....          | 7.0                      | N/A               |
| Connectors for RG-316 .....          | 20.0                     | N/A               |
| Connectors for RG-316DS .....        | 25.0                     | N/A               |
| Connectors for .086 semi-rigid ..... | 30.0                     | 16                |

\*Or cable breaking strength whichever is less.

**Durability:** ..... 500 cycles minimum

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

**Operating Temperature:** Connectors ..... - 65°C to + 165°C  
Dummy loads ..... - 65°C to + 125°C

**Thermal Shock:** Connectors: MIL-STD-202, Method 107, Condition C,  
except -55°C to + 155°C (N/A dummy loads)

**Corrosion:** MIL-STD-202, Method 101, Condition B (N/A dummy loads)

**Shock:** MIL-STD-202, Method 213, Condition B (N/A dummy loads)

**Vibration:** MIL-STD-202, Method 204, Condition D (N/A dummy loads)

**Moisture Resistance:** MIL-STD-202, Method 106 (N/A dummy loads)

### MATERIAL SPECIFICATIONS

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

**Contacts:** Beryllium copper per QQ-C-530, gold plated\* per MIL-G-  
45204 .00003" min.

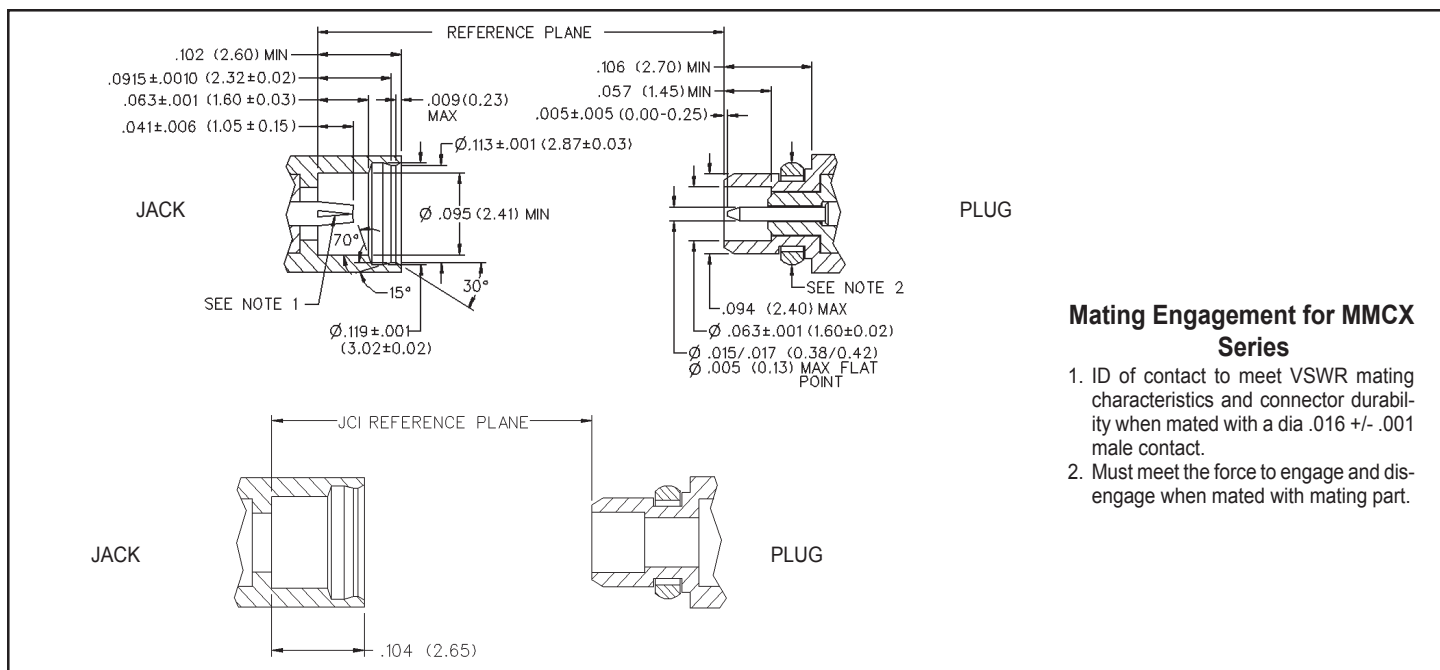
**Interface Spring:** Beryllium copper per QQ-C-530, gold plated\* per  
MIL-G-45204 .00003" min.

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

**Crimp Sleeves:** Copper per WW-T-799 or brass per QQ-B-626, gold  
plated per MIL-G-45204 .00001" min.

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

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



### Mating Engagement for MMCX Series

1. ID of contact to meet VSWR mating characteristics and connector durability when mated with a dia .016 +/- .001 male contact.
2. Must meet the force to engage and disengage when mated with mating part.

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