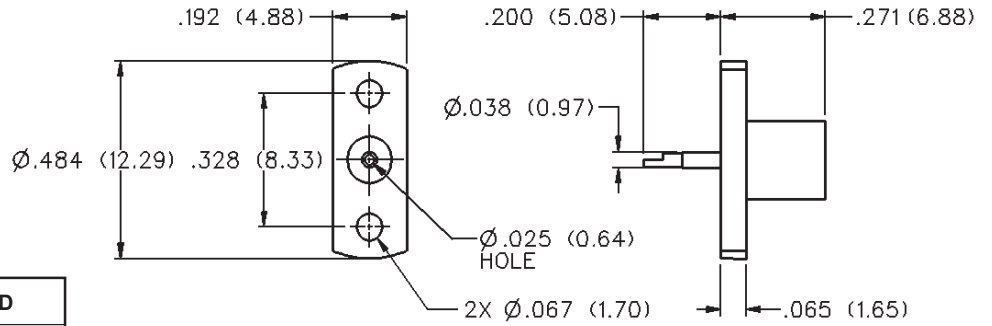
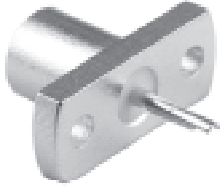


# MCX 50 Ohm 2-Hole Flange Mount Jack Receptacle - Flush Dielectric



| GOLD PLATED  | NICKEL PLATED |
|--------------|---------------|
| 133-3701-601 | 133-3701-606  |

# MCX - 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 Cabled      Right Angle  
   Connectors      Cabled Connectors

RG-178 cable ..... 1.17 + .04f      1.07 + .06f

RG-316 and .086 semi-rigid cable ... 1.13 + .04f      1.07 + .04f

Adapters ..... 1.13 + .04f

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

**Working Voltage:** (Vrms maximum)†

| Connectors for Cable Type  | Sea Level | 70K Feet |
|--|-----------|----------|
| RG-178   | 250       | 65       |
| RG-316, .086 semi-rigid uncabled<br>uncabled receptacles, adapters | 335       | 85       |
| Dummy loads  |           | N/A      |

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

|   |      |
|---|------|
| Connectors for RG-178   | 750  |
| Connectors for RG-316, .086 semi-rigid,<br>uncabled receptacles, adapters | 1000 |
| Dummy loads   | N/A  |

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

|  |     |
|--|-----|
| Connectors for RG-178  | 190 |
| Connectors for RG-316, .086 semi-rigid<br>uncabled receptacles, adapters | 250 |
| Dummy loads  | N/A |

**Insertion Loss:** (dB maximum, tested at 1 GHz)

|  |        |
|--|--------|
| Straight cable connectors and adapters | 0.1 dB |
| Right angle cable connectors           | 0.2 dB |
| Uncabled receptacles, dummy loads      | N/A    |

**Insulation Resistance:** 10,000 megohms minimum

**Contact Resistance:** (milliohms maximum)

|   | Initial | After Environmental |
|---|---------|---------------------|
| Center contact (straight cabled connectors,<br>uncabled receptacles and adapters) | 5.0     | 8.0                 |
| Center contact (right angle cabled connectors)                                    | 5.0     | 15.0                |
| Outer contact   | 1.0     | 1.5                 |
| Braid to body (gold plated connectors)  | 1.0     | N/A                 |
| Braid to body (nickel plated connectors)  | 2.5     | N/A                 |

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

|  |        |
|--|--------|
| Cable connectors                               | -55 dB |
| Uncabled receptacles and adapters, dummy loads | N/A    |

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

|                                   |     |
|-----------------------------------|-----|
| Connectors for RG178              | 500 |
| Connectors for RG316 and adapters | 700 |
| .086 semi-rigid                   | 670 |
| Uncabled receptacles              | 600 |
| Dummy loads                       | N/A |

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

**MECHANICAL RATINGS**

**Engagement Design:** Compatible with CECC 22220, Series MCX

**Engagement Force:** 5.6 pounds maximum axial force

**Disengagement Force:** 8 pounds maximum axial force, 1 pound min.

**Contact Retention:** 2.3 pounds min. axial force (captivated contacts)

1 inch-ounce min. torque (uncabled receptacles)

**Cable Retention:**

|                                | Axial Force*<br>(pounds) | Torque<br>(in-oz) |
|--------------------------------|--------------------------|-------------------|
| Connectors for RG178           | 10                       | N/A               |
| Connectors for RG316           | 20                       | N/A               |
| Connectors for RG316DS         | 25                       | N/A               |
| Connectors for .086 semi-rigid | 30                       | 16                |

\* or cable breaking strength whichever is less.

**ENVIRONMENTAL RATINGS (Meets or exceed the applicable paragraph of MIL-C-39012)**Durability: 500 cycles minimum

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

**Thermal Shock:** MIL-STD-202, Method 107, Condition F (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 B (N/A dummy loads)

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

**MATERIAL SPECIFICATIONS**

**Bodies:** Brass per QQ-B-626 or zinc per ASTM B86-71, gold plated\*\* per MIL-G-45204 .00001" min or nickel plated per QQ-N-290 or bright tin plated

**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.

**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

Avoid user injury due to misapplication. See safety advisory definitions on page 2.

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

### MATING ENGAGEMENT FOR MCX SERIES COMPATIBLE WITH CECC 22220

