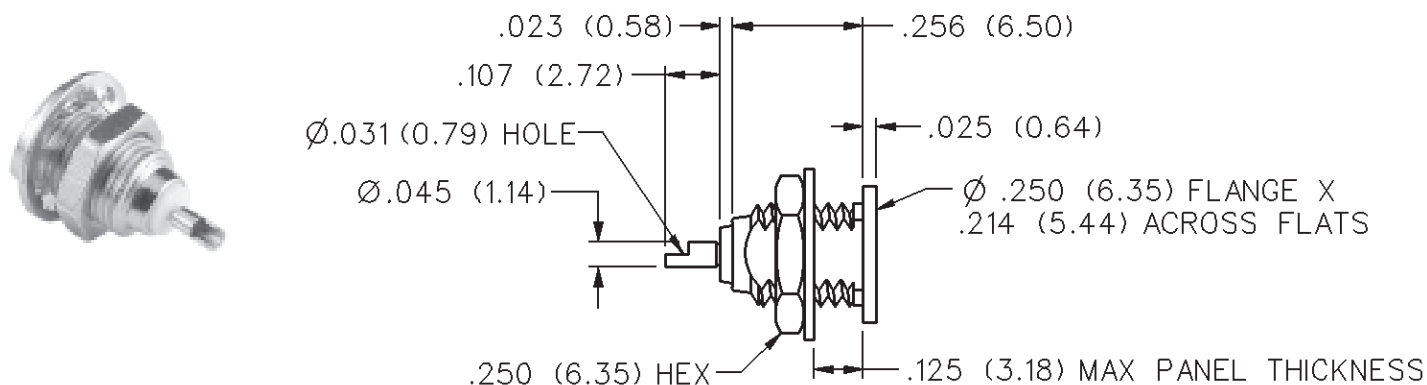


# MCX 50 Ohm Front Mount Bulkhead Jack Receptacle

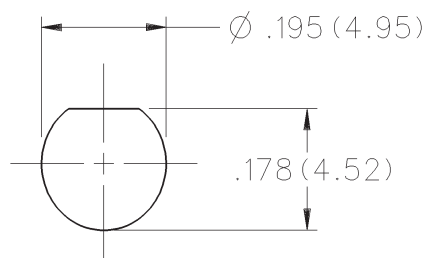


INCHES (MILLIMETERS)  
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST



| GOLD PLATED  | NICKEL PLATED | MOUNTING STYLE  |
|--------------|---------------|-----------------|
| 133-3701-401 | 133-3701-406  | D Flat Threaded |

Mounting hole layout



# 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

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,

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

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, 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

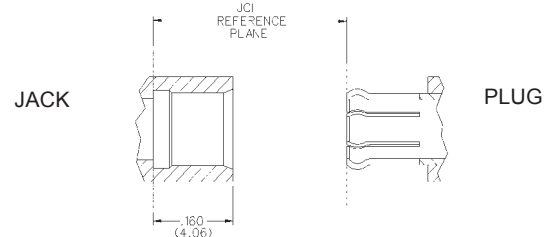
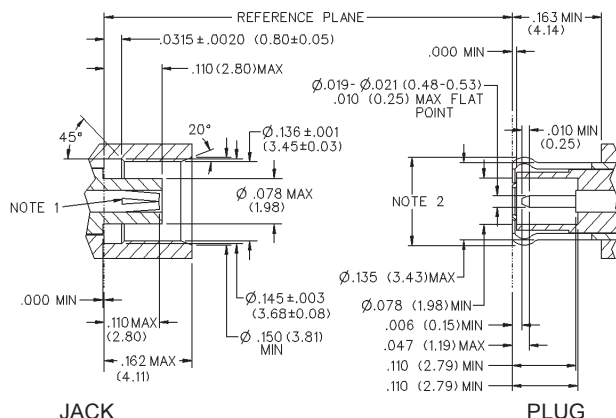
**Crimp Sleeves:** Copper per WW-T-799, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

**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



#### 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.

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<http://moschip.ru/get-element>

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