



# MCX - 75 Ohm Connectors



## Specifications

INCHES (MILLIMETERS)  
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST

### ELECTRICAL RATINGS

**Impedance:** 75 Ohms

**Frequency Range:** 0-6 GHz

**VSWR:** (f = GHz)

	Straight Cabled Connectors	Right Angle Cabled Connectors
RG-179 cable	1.13 + .04f	1.07 + .04f
In-series adapters	1.07 + .03f	
Between series adapters, loads	1.05 + .01f	
Matching pad	1.05 + .05f	
Uncabled receptacles	N/A	

**Working Voltage:** (Vrms maximum)†

Connectors for Cable Type	Sea Level	70K Feet
RG-179	335	85
Uncabled receptacles, adapters	335	85
Loads, matching pad	N/A	

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

Connectors for RG-179	1000
Uncabled receptacles, adapters	1000
Loads, matching pad	N/A

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

Connectors for RG-179	250
Uncabled receptacles, adapters	250
Loads, matching pad	N/A

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

Straight cable connectors	0.1 dB
Right angle cable connectors	0.2 dB
Uncabled receptacles, adapters, matching pad	N/A

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

**Contact Resistance:** (millionths maximum)

	Initial	After Environmental
Center contact (straight cabled connectors, uncabled receptacles)	5.0	8.0
Center contact (right angle cabled connectors)	5.0	15.0
Center contact (loads, matching pads)	N/A	
Outer contact	1.0	1.5
Braid to body (gold plated connectors)	1.0	N/A

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

Cable connectors	-55 dB typical
Uncabled receptacles, adapters, loads, matching pads	N/A

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

Connectors for RG-179	700
Uncabled receptacles, adapters	600
Loads, matching pad	N/A

**Power Rating:** (Loads and matching pad only) 1.0 watt at +25°C derated linearly to 0.5 watt at +125°C

### MECHANICAL RATINGS

**Engagement Design:** Compatible with CECC 22220, Series MCX 50 Ohm

**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* (pounds)	Torque (in-oz)
Connectors for RG-179	20	N/A
Connectors for RG179 DS	25	N/A

\*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:** All connectors: -65°C to +165°C

Loads and matching pads: -65°C to +125°C

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

**Temperature Coefficient:** Loads and matching pad: +/- 300ppm/°C

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

**Shock:** MIL-STD-202, Method 213, Condition B

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

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

### MATERIAL SPECIFICATIONS

**Bodies:** Brass per QQ-B-626, gold plated\*\* per MIL-G-45204 .00001" min. Interface spring - beryllium copper per QQ-C-530, gold plated per MIL-G-45204 .00003" min.

**Contacts:** Male - brass per QQ-B-626 or beryllium copper per QQ-C-530, 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.

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

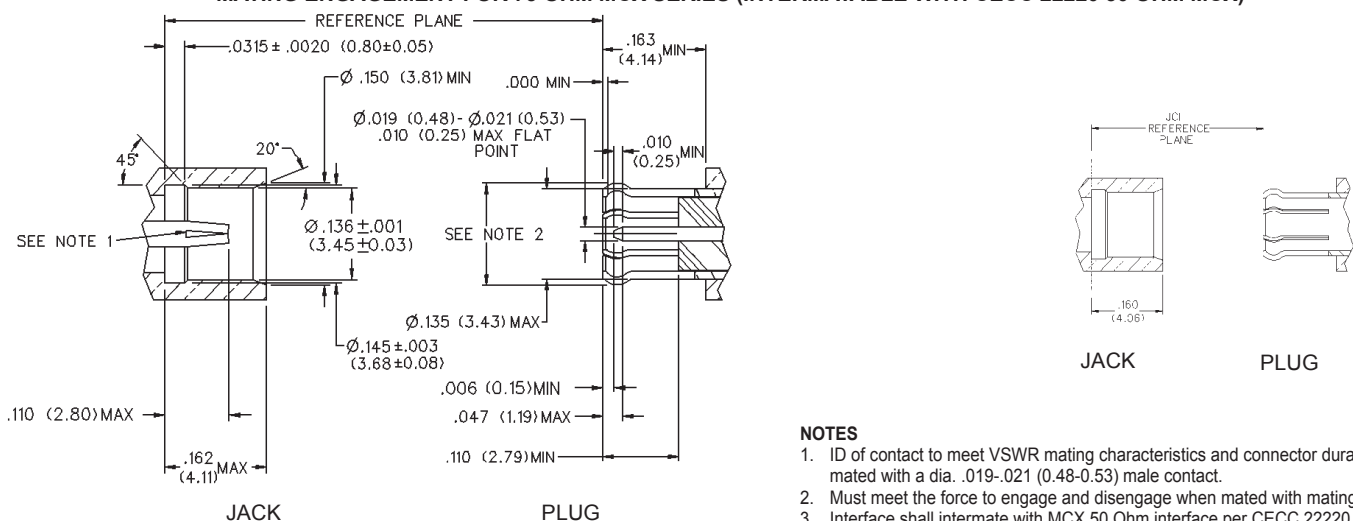
**Mounting Hardware:** Brass (nuts) per QQ-B-626 or phosphor bronze (lockwashers) QQ-B-750, gold plated per MIL-G-45204 .00001" min.

†Avoid user injury due to misapplication.

See safety advisory definitions inside front cover.

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

### MATING ENGAGEMENT FOR 75 OHM MCX SERIES (INTERMATEABLE WITH CECC 22220 50 OHM MCX)



### NOTES

- ID of contact to meet VSWR mating characteristics and connector durability when mated with a dia. .019-.021 (0.48-0.53) male contact.
- Must meet the force to engage and disengage when mated with mating part.
- Interface shall intermate with MCX 50 Ohm interface per CECC 22220.