



Connectivity Solutions

Complete or Partial Part #,
Competitor Part # or
Keywords.

Wireless

CATV

Audio & Video

Networking &
Structured Wiring

Military & Aerospace

Test & Measurement

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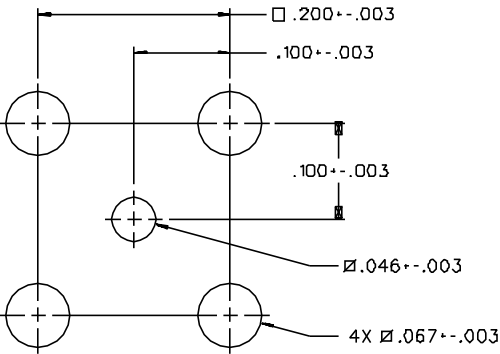
Product Detail



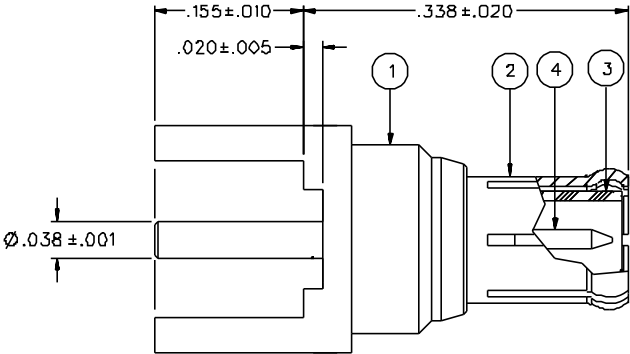
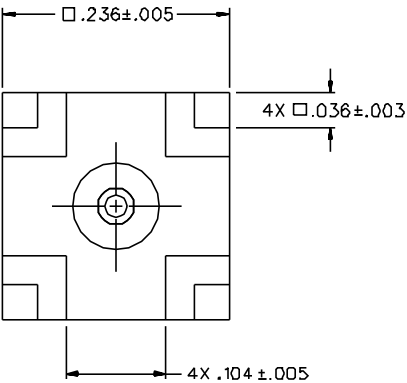
Product Line:	Johnson (Click for customer service)
Part Number:	133-3801-201
Description:	MCX Straight PC Mount Plug Receptacle
Product Family:	MCX Non-Magnetic
Body Material:	Brass
Body Style:	Straight
Color / Finish:	Gold
Frequency:	6 GHz
Genders:	Male
Leg Length:	.155 (3.94)
Ohm:	50
Product Type:	PC Mount
RoHS Compliant:	Yes

20070523-1523

PART NUMBER	ITEM ① BASE	ITEM ② INTERFACE	ITEM ③ INSULATOR	ITEM ④ CONTACT
133-3801-201	BRASS GOLD PL .00001 MIN OVER NICKEL PL .00005 MIN OVER COPPER PL .00005 MIN	BERYLLIUM COPPER GOLD PL .00003 MIN OVER NICKEL PL .00005 MIN OVER COPPER PL .00005 MIN	TEFLON	BRASS GOLD PL .00003 MIN OVER NICKEL PL .00005 MIN OVER COPPER PL .00005 MIN
133-3801-206	BRASS NICKEL PL .0001 MIN OVER COPPER PL .00005 MIN	BERYLLIUM COPPER NICKEL PL .0001 MIN OVER COPPER PL .00005 MIN	TEFLON	BRASS GOLD PL .00003 MIN OVER NICKEL PL .00005 MIN OVER COPPER PL .00005 MIN



MOUNTING HOLE LAYOUT



NOTES:

1. SPECIFICATIONS:

IMPEDANCE: 50 OHMS
 FREQUENCY RANGE: 0-6 GHz
 VSWR: NOT APPLICABLE
 WORKING VOLTAGE: 335 VRMS MAX AT SEA LEVEL
 DIELECTRIC WITHSTANDING VOLTAGE: 1000 VRMS MIN AT SEA LEVEL
 INSULATION RESISTANCE: 10000 MEGOHM MIN
 CONTACT RESISTANCE:
 CENTER CONTACT - INITIAL 5 MILLIOHM MAX, AFTER ENVIRONMENTAL 8 MILLIOHM MAX
 OUTER CONDUCTOR - GOLD PLATED INITIAL 1 MILLIOHM MAX, AFTER ENVIRONMENTAL 1.5 MILLIOHM MAX
 NICKEL PLATED INITIAL 2.5 MILLIOHM MAX, AFTER ENVIRONMENTAL 3.5 MILLIOHM MAX
 BRAID TO BODY - NOT APPLICABLE
 CORONA LEVEL: 250 VOLTS MINIMUM AT 70,000 FEET
 INSERTION LOSS: NOT APPLICABLE
 RF LEAKAGE: NOT APPLICABLE
 RF HIGH POTENTIAL WITHSTANDING VOLTAGE: 600 VRMS AT 4 AND 7 MHZ

MECHANICAL:

ENGAGE/DISENGAGE FORCE: 5.6 LBS MAX ENGAGEMENT
 1.0 LB MIN DISENGAGEMENT
 8.0 LBS MAX DISENGAGEMENT
 CONTACT RETENTION FORCE: 2.3 LBS MIN AXIAL FORCE
 CONTACT RETENTION TORQUE: NOT APPLICABLE
 COUPLING MECHANISM RETENTION: 20 LBS MIN AXIAL FORCE
 CABLE ACCEPTABILITY: NOT APPLICABLE
 CABLE HEX CRIMP SIZE: NOT APPLICABLE
 CABLE RETENTION: NOT APPLICABLE
 DURABILITY: 500 CYCLES MIN

ENVIRONMENTAL:

(MEETS OR EXCEEDS THE APPLICABLE PARAGRAPH OF MIL-C-38012)
 THERMAL SHOCK: MIL-STD-202, METHOD 107, CONDITION F
 OPERATING TEMPERATURE: -65 DEG C TO 165 DEG 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: MIL-STD-202, METHOD 106

DRAWING NO.									
C - 133-3801-201/210									
0	REVISIONS								
ENGINEERING RELEASE									
1	7-26-96	R	H	B	B	B	B	8-9-96	ECN 44166
CHANGED: 5.6 LBS MAX ENGAGE WAS 3.4 LBS, 1.0/8.0 MIN/MAX DISENGAGE WAS 5 LBS TYPICAL, 2.3 LBS RETENTION WAS 4 LBS									
1a	10-5-00	R	H	B	B	B	B	11-21-00	ECN 47338
VERSION UPDATE									
* REVISION NUMBER FOLLOWED BY AN ALPHA *									
* CHARACTER INDICATES DRAWING CLARIFICATION *									
* CATION OR PART NUMBER ADDITION ONLY *									
1b	3-8-01	R	H	B	B	B	B	ECN 47578	

CUSTOMER DRAWING

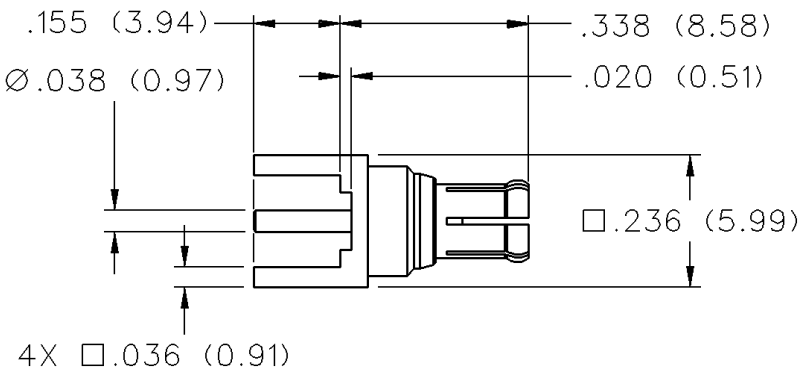
THIS DRAWING TO BE INTERPRETED PER ANSI Y 14.5M - 1982

"μSTATION"

COMPANY CONFIDENTIAL

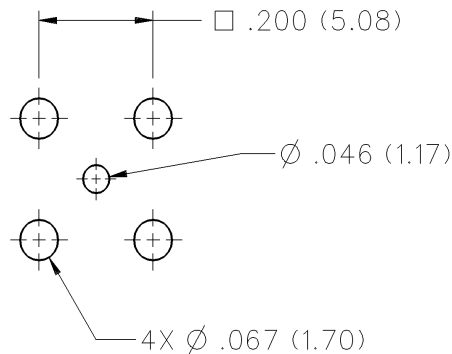
TOLERANCE UNLESS OTHERWISE SPECIFIED		DRAWN BY SWC	DATE 5-2-96	299 Johnson Ave. P.O. Box 1732 Waseca, MN 56093-0832	TITLE PLUG ASSEMBLY STRAIGHT PC MOUNT MCX
DECIMALS	mm	CHECKED BY SWC	DATE 7-26-96		
.XXX		APPROVED BY TAK	DATE 8-5-96	CODE NO.	DRAWING NO. C - 133-3801-201/210
MATL		APPROVED BY RJB	DATE 8-5-96		
FINISH		RELEASE DATE	8-9-96	SCALE 10:1	U/N INCH SHEET 2 OF 2

MCX 50 Ohm Straight Plug Receptacle



GOLD PLATED	NICKEL PLATED
133-3801-201	133-3801-206

Mounting hole layout



MCX - 50 Ohm Connectors

Specifications

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) After
 Initial 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*** **Torque**
 (pounds) (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

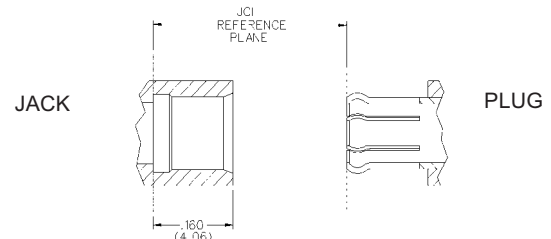
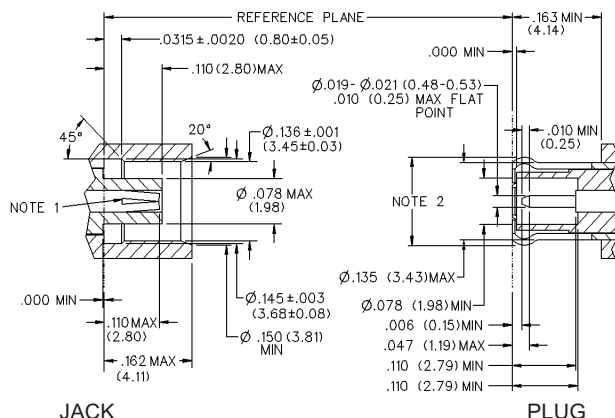
Crimp Sleeves: Copper per WW-T-799, gold plated per MIL-G-45204
.00001" min. or nickel plated per QQ-N-290

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.