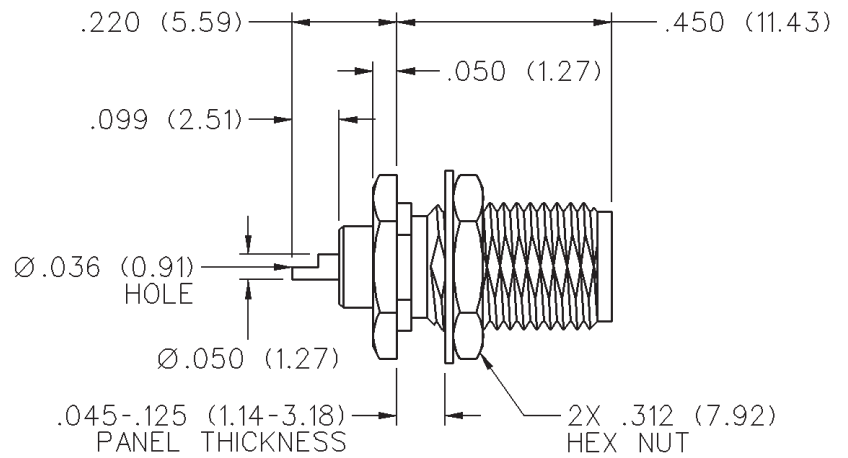
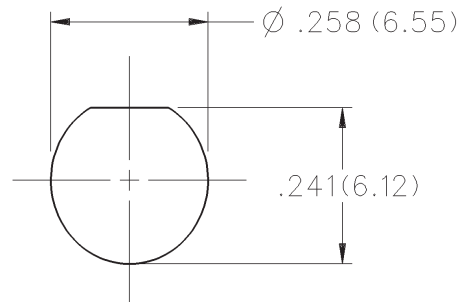


50 Ohm SMA Rear Mount Bulkhead Jack Receptacle



VSWR & FREQ. RANGE	GOLD PLATED	NICKEL PLATED
VSWR: N/A 0-18 GHz	142-0701-401	142-0701-406

Mounting hole layout



SMA - 50 Ohm Connectors

Specifications



INCHES (MILLIMETERS)
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST

ELECTRICAL RATINGS

Impedance: 50 ohms

Frequency Range:

Dummy loads	0-2 GHz
Flexible cable connectors	0-12.4 GHz
Uncabled receptacles, RA semi-rigid and adapters	0-18.0 GHz
Straight semi-rigid cable connectors and field replaceable connectors	0-26.5 GHz

VSWR: (f = GHz)

	Straight Cabled Connectors	Right Angle Cabled Connectors
RG-178 cable	1.20 + .025f	1.20 + .03f
RG-316, LMR-100 cable	1.15 + .02f	1.15 + .03f
RG-58, LMR-195 cable	1.15 + .01f	1.15 + .02f
RG-142 cable	1.15 + .01f	1.15 + .02f
LMR-200, LMR-240 cable	1.10 + .03f	1.10 + .06f
.086 semi-rigid	1.07 + .008f	1.18 + .015f
.141 semi-rigid (w/contact)	1.05 + .008f	1.15 + .015f
.141 semi-rigid (w/o contact)	1.035 + .005f	
Jack-bulkhead jack adapter and plug-plug adapter	1.05 + .01f	
Jack-jack adapter and plug-jack adapter	1.05 + .005f	
Uncabled receptacles, dummy loads	N/A	
Field replaceable (see page 59)	N/A	

Working Voltage: (Vrms maximum)

Connectors for Cable Type	Sea Level	70K Feet
RG-178	170	45
RG-316; LMR-100, 195, 200	250	65
RG-58, RG-142, LMR-240, .086 semi-rigid, uncabled receptacles, .141 semi-rigid w/o contact	335	85
.141 semi-rigid with contact and adapters	500	125
Dummy loads	N/A	

Connectors for Cable Type

Sea Level 70K Feet

RG-178	170	45
RG-316; LMR-100, 195, 200	250	65
RG-58, RG-142, LMR-240, .086 semi-rigid, uncabled receptacles, .141 semi-rigid w/o contact	335	85
.141 semi-rigid with contact and adapters	500	125
Dummy loads	N/A	

Dielectric Withstanding Voltage: (VRMS minimum at sea level)

Connectors for RG-178	500
Connectors for RG-316; LMR-100, 195, 200	750
Connectors for RG-58, RG-142, LMR-240, .086 semi-rigid, field replaceable, uncabled receptacles	1000
Connectors for .141 semi-rigid with contact and adapters	1500
Connectors for .141 semi-rigid w/o contact, dummy loads	N/A

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

Connectors for RG-178	125
Connectors for RG-316; LMR-100, 195, 200	190
Connectors for RG-58, RG-142, LMR-240, .086 semi-rigid, uncabled receptacles, .141 semi-rigid w/o contact	250
Connectors for .141 semi-rigid with contact and adapters	375
Dummy loads	N/A

Insertion Loss: (dB maximum)

Straight flexible cable connectors and adapters	0.06	$\sqrt{f}$ (GHz), tested at 6 GHz
Right angle flexible cable connectors	0.15	$\sqrt{f}$ (GHz), tested at 6 GHz
Straight semi-rigid cable connectors with contact	0.03	$\sqrt{f}$ (GHz), tested at 10 GHz
Right angle semi-rigid cable connectors	0.05	$\sqrt{f}$ (GHz), tested at 10 GHz
Straight semi-rigid cable connectors w/o contact	0.03	$\sqrt{f}$ (GHz), tested at 16 GHz
Straight low loss flexible cable connectors	0.06	$\sqrt{f}$ (GHz), tested at 1 GHz
Right Angle low loss flexible cable connectors	0.15	$\sqrt{f}$ (GHz), tested at 1 GHz
Uncabled receptacles, field replaceable, dummy loads		N/A

Insulation Resistance: 5000 megohms minimum

Contact Resistance: (milliohms maximum) **Initial** **After Environmental**

Center contact (straight cabled connectors and uncabled receptacles)	3.0*	4.0*
Center contact (right angle cabled connectors and adapters)	4.0	6.0
Field replaceable connectors	6.0	8.0
Outer contact (all connectors)	2.0	N/A
Braid to body (gold plated connectors)	0.5	N/A
Braid to body (nickel plated connectors)	5.0	N/A

*N/A where the cable center conductor is used as a contact

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

Flexible cable connectors, adapters and .141 semi-rigid connectors w/o contact	-60 dB
Field replaceable w/o EMI gasket	-70 dB
.086 semi-rigid connectors and .141 semi-rigid connectors with contact, and field replaceable with EMI Gasket	-90 dB
Two-way adapters	-90 dB
Uncabled receptacles, dummy loads	N/A

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

Connectors for RG-178	335
Connectors for RG-316; LMR-100, 195, 200	500
Connectors for RG-58, RG-142, LMR-240, .086 semi-rigid, .141 semi-rigid cable w/o contact, uncabled receptacles	670
Connectors for .141 semi-rigid with contact and adapters	1000

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

MECHANICAL RATINGS

Engagement Design: MIL-C-39012, Series SMA

Engagement/Disengagement Force: 2 inch-pounds maximum

Mating Torque: 7 to 10 inch-pounds

Bulkhead Mounting Nut Torque: 15 inch-pounds

Coupling Proof Torque: 15 inch-pounds minimum

Coupling Nut Retention: 60 pounds minimum

Contact Retention:

6 lbs. minimum axial force (captivated contacts)

4 inch-ounce minimum torque (uncabled receptacles)

Cable Retention:

	Axial Force*(lbs)	Torque (in-oz)
Connectors for RG-178	10	N/A
Connectors for RG-316, LMR-100	20	N/A
Connectors for LMR-195, 200	30	N/A
Connectors for RG-58, LMR-240	40	N/A
Connectors for RG-142	45	N/A
Connectors for .086 semi-rigid	30	16
Connectors for .141 semi-rigid	60	55

*Or cable breaking strength whichever is less.

Durability: 500 cycles minimum

100 cycles minimum for .141 semi-rigid connectors w/o contact

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

Shock: MIL-STD-202, Method 213, Condition I

Vibration: MIL-STD-202, Method 204, Condition D

Moisture Resistance: MIL-STD-202, Method 106

ENVIRONMENTAL RATINGS

Temperature Range: - 65°C to + 165°C

Thermal Shock: MIL-STD-202, Method 107, Condition B

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

†Avoid user injury due to misapplication. See safety advisory definitions inside front cover.

Cinch Connectivity Solutions

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Specifications



Bodies: Brass per QQ-B-626, gold plated* per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

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.

Nut Retention Spring: Beryllium copper per QQ-C-533. Unplated

Insulators: PTFE fluorocarbon per ASTM D 1710 and ASTM D 1457 or Tefzel per ASTM D 3159 or PFA 340 per ASTM

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 or brass per QQ-B-613, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

Mounting Hardware: Brass per QQ-B-626 or QQ-B-613, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

Seal Rings: Silicone rubber per ZZ-R-765

EMI Gaskets: Conductive silicone rubber per MIL-G-83528, Type M

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

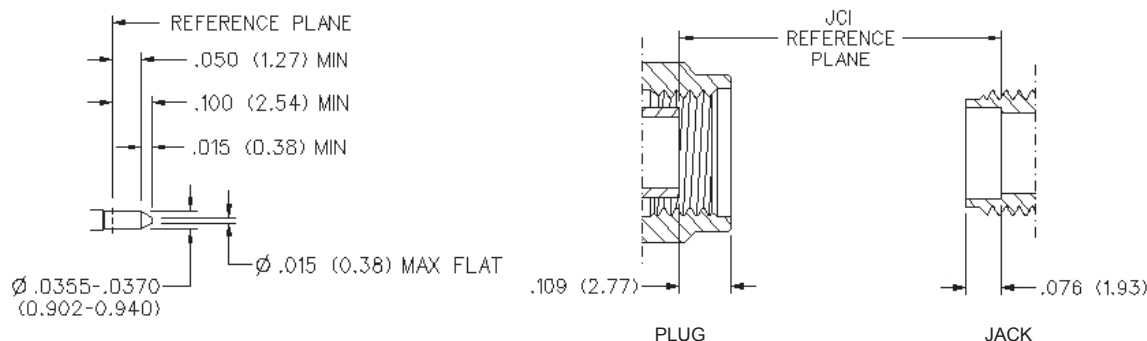
Technical drawing showing two views of a plug and jack assembly. The left view is labeled "PLUG" and the right view is labeled "JACK". Both views show a cross-section of the assembly with various dimensions and labels.

Dimensions and Labels:

- REFERENCE PLANE**: Indicated by a horizontal line at the top of both views.
- PLUG View (Left):**
 - Top dimensions: $.088 \pm .005$ (2.24 $\pm$ 0.13), $.000 - .010$ (0.00 - 0.25), $.000$ MIN.
 - Feature: HEX $.312$ (7.92).
 - Thread: 1/4-36 UNS-2B.
 - Internal dimensions: $\phi .250$ (6.35) MAX, $\phi .1808$ (4.592) MAX.
 - Bottom dimensions: $.130$ (3.30) MIN, $.135$ (3.43) MAX, $.030 \pm .015$ (0.76 $\pm$ 0.38).
- JACK View (Right):**
 - Top dimensions: $.076 \pm .002$ (1.93 $\pm$ 0.05), $.000 - .010$ (0.00 - 0.25), $.000 - .010$ (0.00 - 0.25).
 - Internal dimensions: $\phi .181$ (4.60) MIN, $\phi .212 \pm .004$ (5.38 $\pm$ 0.10).
 - Thread: 1/4-36 UNS-2A.
 - Internal feature: SEE NOTE 1.
 - Bottom dimensions: $.218$ (5.54) MIN, $.170$ (4.32) MIN FULL THREAD, $.030 \pm .015$ (0.76 $\pm$ 0.38), $.005$ (0.13) MAX X 45°.

Other Labels:

- SEE DETAIL**: Points to the internal thread area of the plug.
- SEE NOTE 1**: Points to a specific internal feature of the jack.



NOTES

1. ID OF CONTACT TO MEET VSWR, CONTACT RESISTANCE AND INSERTION WITHDRAWAL FORCES WHEN MATED WITH DIA .0355-.0370 MALE PIN.

Cinch Connectivity Solutions

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