



Connectivity Solutions

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

Wireless

CATV

Audio & Video

Networking &
Structured Wiring

Military & Aerospace

Test & Measurement

Home

Member Access

Products

Connectors

Microwave Components

CATV Components

Coaxial Cable Assemblies

Structured Cabling & Connectors

Tools & Accessories

Customer Service

Request For Quote

Representatives

Distributors

Literature/Catalog Request

What's New

About Our Brands

Legal Terms

© 2007 All Rights Reserved

Product Detail

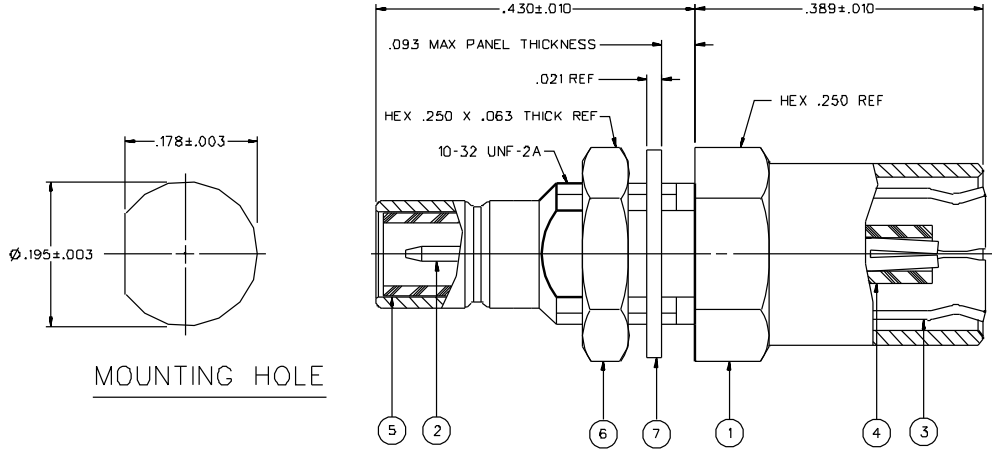


Product Line:	Johnson (Click for customer service)
Part Number:	131-3901-411
Description:	SMB 50 Ohm Plug to Bulkhead Jack In-Series Adapter
Product Family:	In-Series Adapters
Body Material:	Brass
Body Style:	Bulkhead
Color / Finish:	Gold
Connector A:	SMB
Connector B:	SMB
Frequency:	4 GHz
Genders:	Male/Female
Ohm:	50
Product Type:	Adapter
RoHS Compliant:	Yes

20070523-1523

PART NUMBER	ITEM ① BODY	ITEM ② CONTACT	ITEM ③ INTERFACE	ITEM ④ PLUG INSULATOR	ITEM ⑤ JACK INSULATOR	ITEM ⑥ NUT	ITEM ⑦ LOCKWASHER
131-3901-411	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	BERYLLIUM COPPER GOLD PL .00003 MIN OVER NICKEL PL .00005 MIN OVER COPPER PL .00005 MIN	TEFLON	TEFLON	BRASS GOLD PL .00001 MIN OVER NICKEL PL .00005 MIN OVER COPPER PL .00005 MIN	PHOSPHOR BRONZE GOLD PL .00001 MIN OVER NICKEL PL .00005 MIN OVER COPPER PL .00005 MIN
131-3901-416	BRASS NICKEL PL .0001 MIN OVER COPPER PL .00005 MIN	BERYLLIUM COPPER GOLD PL .00003 MIN OVER NICKEL PL .00005 MIN OVER COPPER PL .00005 MIN	BERYLLIUM COPPER GOLD PL .0001 MIN OVER COPPER PL .00005 MIN	TEFLON	TEFLON	BRASS NICKEL PL .0001 MIN OVER COPPER PL .00005 MIN	PHOSPHOR BRONZE NICKEL PL .0001 MIN OVER COPPER PL .00005 MIN

DRAWING NO. C - 131-3901-411/420			
0 REVISIONS			
ENGINEERING RELEASE			
1	9-3-96	R J B	9-5-96
VERSION UPDATE			
1a	10-13-97	R J B	ECN 44283
VERSION UPDATE			
1b	3-11-98	R J B	ECN 44921



NOTES:

1. SPECIFICATIONS:

IMPEDANCE: 50 OHMS
 FREQUENCY RANGE: 0-4 GHz
 VSWR: 1.20, .04F (F IN GHz)
 WORKING VOLTAGE: 350 VRMS MAX AT SEA LEVEL
 INSULATION RESISTANCE: 1000 MEGOHM MIN
 CONTACT RESISTANCE:
 CENTER CONTACT - INITIAL 6 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

BRAD TO BODY - NOT APPLICABLE
 CORONA LEVEL: NOT APPLICABLE
 INSERTION LOSS: NOT APPLICABLE
 RF LEAKAGE: NOT APPLICABLE
 RF HIGH POTENTIAL WITHSTANDING VOLTAGE: 600 VRMS AT 4 AND 7 MHZ

MECHANICAL:
 ENGAGE/DISENGAGE FORCE: INITIAL 14 LBS MAX AFTER DURABILITY 14 LBS MAX ENGAGEMENT: 2 LBS MIN DISENGAGEMENT
 MATING TORQUE: NOT APPLICABLE
 COUPLING PROOF TORQUE: NOT APPLICABLE
 COUPLING RETENTION: NOT APPLICABLE
 CONTACT RETENTION: 4 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-39012)
 THERMAL SHOCK: MIL-STD-202, METHOD 107, CONDITION B
 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

CUSTOMER DRAWING

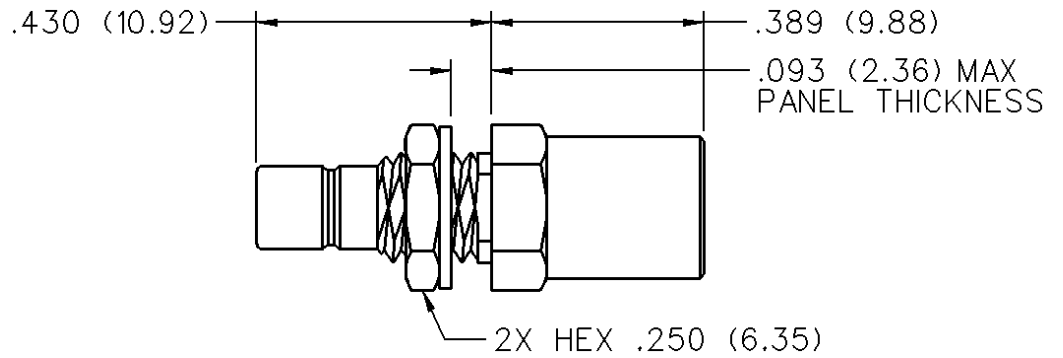
THIS DRAWING TO BE INTERPRETED PER ANSI Y 14.5M - 1982

"μSTATION"

COMPANY CONFIDENTIAL

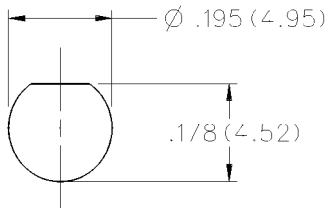
TOLERANCE UNLESS OTHERWISE SPECIFIED	DRAWN BY RJB	DATE 11-13-95	299 Johnson Ave. P.O. Box 1732 Waseca, MN 56093-0832
DECIMALS _____ mm	CHECKED BY _____	DATE _____	
.XXX _____	APPROVED BY RJB	DATE 9-3-96	TITLE ADAPTER ASSEMBLY, SMB BULKHEAD JACK TO SMB PLUG
MATL _____	APPROVED BY _____	DATE _____	CODE NO. _____
FINISH _____	RELEASE DATE 9-5-96	DATE _____	DRAWING NO. C - 131-3901-411/420
SCALE 10:1		U/M INCH	SHEET 2 OF 2

50 Ohm SMB Plug to Bulkhead Jack Adapter



GOLD PLATED	NICKEL PLATED
131-3901-411	131-3901-416

Mounting hole layout



SMB - 50 Ohm Connectors

Specifications



ELECTRICAL RATINGS

Impedance: 50 ohms

Frequency Range: Connectors 0-4 GHz
 Dummy loads 0-1 GHz

VSWR: (f = GHz)

	Straight Cabled	Right Angle Cabled
RG-178 cable	1.30 + .04f	1.45 + .06f
RG-316, RG-58, and .086 semi-rigid cable	1.25 + .04f	1.35 + .04f
Adapters	1.20 + .04f	

Uncabled receptacles, dummy loads N/A

Working Voltage: (Vrms maximum)†

Connectors for Cable Type	Sea Level	70K Feet
RG-178	250	60
RG-316, RG-58, .086 semi-rigid 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, RG-58, .086 semi-rigid, uncabled receptacles, adapters	1000
Dummy loads	N/A

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

Connectors for RG-178	185
Connectors for RG-316, RG-58, .086 semi-rigid	250
Uncabled receptacles, adapters, dummy loads	N/A

Insertion Loss: (dB maximum, tested at 1.5 GHz)

Straight cable connectors	0.30 dB
Right angle cable connectors	0.60 dB
Uncabled receptacles, adapters and dummy loads	N/A

Insulation Resistance: 1000 megohms minimum

Contact Resistance: (milliohms maximum)	Initial	After Environmental
Center contact (straight cabled connectors and uncabled receptacles)	6.0	8.0
Center contact (right angle cabled connectors and adapters)	12.0	16.0
Outer contact (gold plated connectors)	1.0	1.5
Outer contact (nickel plated connectors)	2.5	3.5
Braid to body (gold plated connectors)	1.0	N/A
Braid to body (nickel plated connectors)	2.5	N/A

RF Leakage: (dB minimum tested at 2.5 GHz)

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

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

Connectors for RG-178	500
Connectors for RG-316, RG-58	700
Uncabled receptacles and adapters	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: MIL-C-39012, Series SMB

Engagement/Disengagement Force: 2 pounds min to 14 pounds maximum axial force

Contact Retention: 4 lbs. min axial force (captivated contacts)

1 inch-ounce min torque (uncabled receptacles)

Cable Retention: Axial Force* (pounds) Torque (in-oz)

Connectors for RG-178	10	N/A
Connectors for RG-316	20	N/A
Connectors for RG-58	40	16
Connectors for .086 semi-rigid	30	16

* or cable breaking strength whichever is less.

Durability: 500 cycles minimum

ENVIRONMENTAL RATINGS

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

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

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

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

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 OR Teflon PFA 340

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

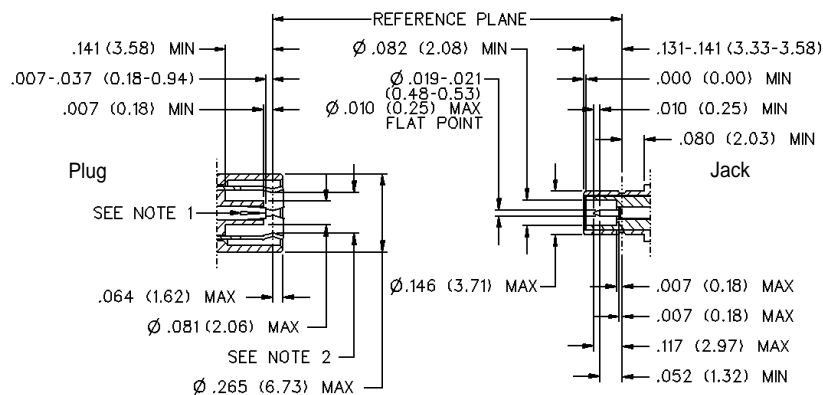
Mounting Hardware: Brass (nuts) per QQ-B-626 or phosphor bronze (lockwashers) QQ-B-750, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

Cover Rings: Phosphor Bronze per 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 inside front cover.

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

MATING ENGAGEMENT FOR SMB SERIES PER MIL-C-39012



Notes

1. ID of contact to meet VSWR mating characteristics and connector durability when mated with a dia .019 / 0.53 male contact.
2. Must meet the force to engage and disengage when mated with mating part.

