

This range of 50 ohm microminiature radio frequency connectors is suitable for both military and commercial equipment operating at frequencies up to 4 GHz (SSMB) and 12.4 GHz (SSMC). They provide a choice of Snap-on (SSMB) or Screw-on (SSMC) and are available for a wide range of flexible cables.



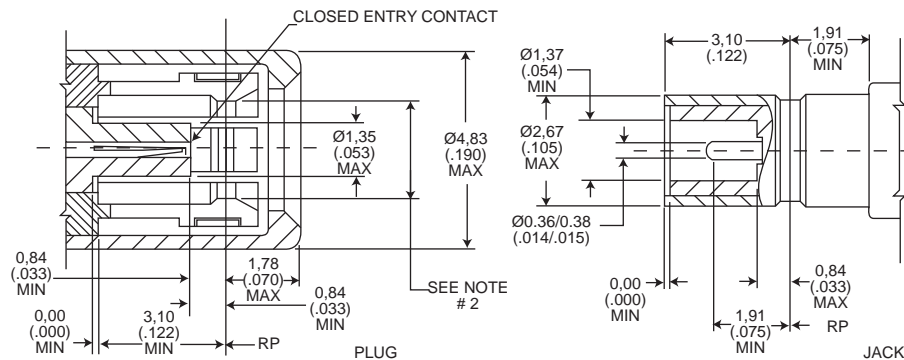
SSMC connectors are used where a positive mechanical engagement is required and where space permits the use of torque wrenches. SSMB connectors are quick disconnect versions of the SSMC and are used in applications where limited space prohibits the use of torque wrenches or when components or modules must be quickly changed to keep down time to a minimum.

Key Features

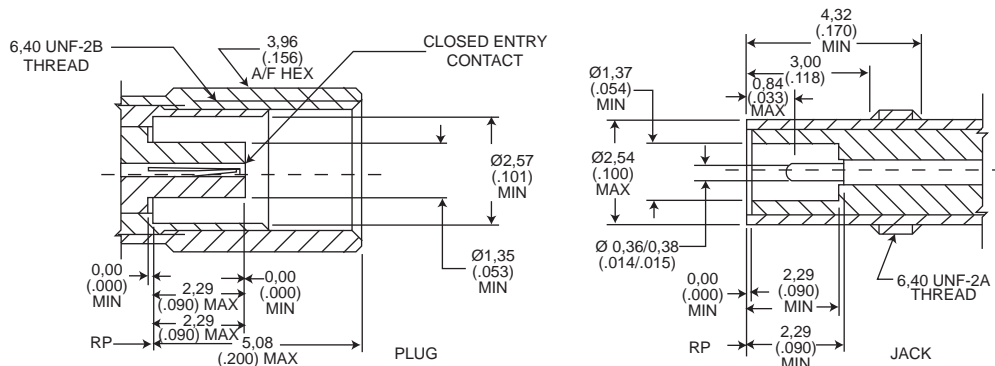
- Small size
- Low mass
- Close packing density
- Used in airborne applications

MATING INTERFACE

SSMB (SNAP-ON)



SSMC (SCREW-ON)



NOTES

1) Inside diameter of female contact to meet VSWR, mating characteristics and connector durability, when mated with a 0.36 - 0.38 (.014 - .015) diameter male contact.

2) Must meet the force to engage and disengage when mated with its mating part.

Dimensions shown in mm (inch)
 Specifications and dimensions subject to change

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SPECIFICATIONS

ELECTRICAL	Impedance	50Ω																																
	Frequency Range	SSMB = 0 to 4.0 GHz. SSMC = 0 to 12.4 GHz																																
	Voltage Rating	At Sea Level = 250 Vrms. at 21km (70k feet) = 60 Vrms																																
	Insulation Resistance	1000 MΩ minimum																																
	Contact resistance	Center Contact = 4.0 m Ω maximum initial. 6.0 m Ω maximum after environment Outer Contact = 1.0 m Ω maximum initial. 1.5 m Ω maximum after environment Braid to Body = 1.0 m Ω maximum																																
	Contact Current Rating	1.0 A dc maximum																																
	Insertion Loss	0.30 dB maximum @ 1.5 GHz																																
	RF Leakage	SSMB = -40 dB minimum @ 2 - 3 GHz SSMC = -50 dB minimum @ 2 - 3 GHz																																
	Voltage Standing Wave Ratio (VSWR) To 12.4 GHz or 80% of upper cut-off frequency of the cable, whichever is lower. Applicable to 50Ω cables only.(F = GHz)	<table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="4">Connector Configuration</th> </tr> <tr> <th colspan="2">SSMB</th> <th colspan="2">SSMC</th> </tr> <tr> <td></td> <td>Straight</td> <td>Right Angle</td> <td>Straight</td> <td>Right Angle</td> </tr> </thead> <tbody> <tr> <td>Cable group</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>RG178/U, 196/U</td> <td>1.25 + .02F</td> <td>1.25 + .03F</td> <td>1.20 + .02F</td> <td>1.20 + .03F</td> </tr> <tr> <td>RG188/U, 316/U</td> <td>1.30 + .02F</td> <td>1.30 + .03F</td> <td>1.25 + .03F</td> <td>1.30 + .02F</td> </tr> </tbody> </table>					Connector Configuration				SSMB		SSMC			Straight	Right Angle	Straight	Right Angle	Cable group					RG178/U, 196/U	1.25 + .02F	1.25 + .03F	1.20 + .02F	1.20 + .03F	RG188/U, 316/U	1.30 + .02F	1.30 + .03F	1.25 + .03F	1.30 + .02F
		Connector Configuration																																
SSMB		SSMC																																
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RG178/U, 196/U	1.25 + .02F	1.25 + .03F	1.20 + .02F	1.20 + .03F																														
RG188/U, 316/U	1.30 + .02F	1.30 + .03F	1.25 + .03F	1.30 + .02F																														
MECHANICAL	Engagement Forces	SSMB: Initial = 26.7 N (6 lbs.) max. engagement and 8.9 N(2 lbs.) minimum disengagement. After 500 matings = 26.7 N (6 lbs.) max. engagement and 4.4 N (1 lb.) min. disengagement. SSMC: 0.11 Nm (16 in. oz.) torque max.																																
	Mating Torque	SSMB: N/A SSMC: 0.2 Nm to 0.23 Nm (28 - 32 in.oz)																																
	Locknut Torque	0.28 Nm to 0.35 Nm (40 - 50 in. oz)																																
	Coupling Nut Retention	SSMB: N/A SSMC: 111 N (25 lbs.) minimum																																
	Materials	Body, Body Components: Brass, half hard. Male and Female Contacts: Beryllium Copper. Insulators: PTFE. Lockwashers: Phosphor Bronze. Crimp Ferrule: Annealed copper alloy.																																
	Finish/Plating	Center Contacts: Gold plated. Other Metal Parts: Gold or nickel plated to meet the finish and corrosion requirements of MIL-C-39012																																
ENVIRONMENTAL	Temperature Rating	-65° C to 165° C																																
	Corrosion (salt spray)	MIL-STD-202, Method 101, test condition B, 5% salt solution																																
	Vibration, High Frequency	MIL-STD-202, Method 204, SSMB: test condition B (15 G's). SSMC: test condition D (20 G's)																																
	Shock	MIL-STD-202, Method 213, SSMB: test condition B, 75 G's @ 6 milliseconds, 1/2 sine. SSMC: test condition C, 100 G's @ 6 milliseconds, 1/2 sine.																																
GENERAL	Thermal Shock	MIL-STD-202, Method 107, test condition B, except high temperature shall be 85° C. High temperature shall be 200°C for connectors using 200°C cables.																																
	Connector Durability	500 matings minimum																																
	Contact Captivation	8,9 N (2 lbs.) minimum axial force.																																
	Cable Retention	When properly assembled to the compatible single braided coaxial cable, the retention is equal to the breaking strength of the cable.																																

Body plating options

The following part number suffices can be specified for SSMB and SSMC connectors.

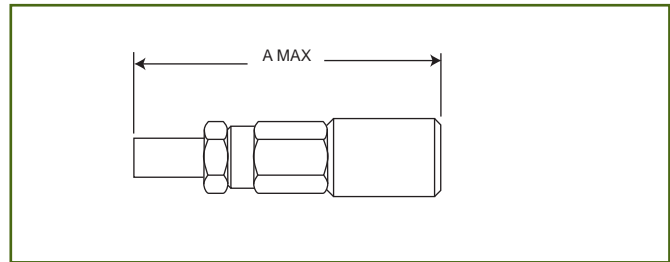
...220 gold body

...910 nickel body

PLUGS, JACKS AND RECEPTACLES

Straight Plug

Part Number	Cable Numbers	A
051 - 424 - 3188220	RG174/U, 316/U	20,01 (.790)
A51 - 424 - 3196220	RG178/U, 196/U	19,33 (.761)

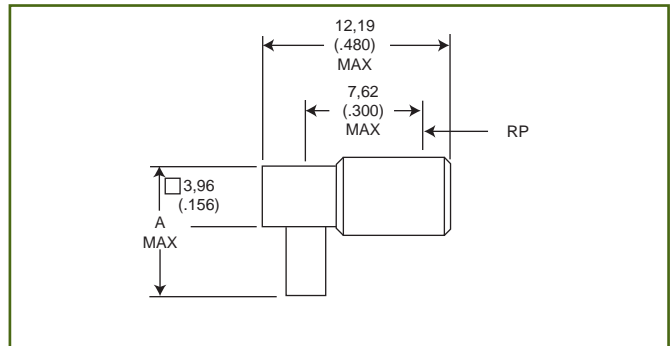


Assembly Instructions

- 051 - 424 - 3188220 AI 663 (Page 44)
- A51 - 424 - 3196220 AI 128 (Page 44)

Right Angle Plug

Part Number	Cable Numbers	A
A51 - 428 - 3188220	RG174/U, 316/U	9,55 (.376)
A51 - 428 - 3196220	RG178/U, 196/U	9,55 (.376)
A51 - 428 - 3875220	RD316	10,16 (.400)

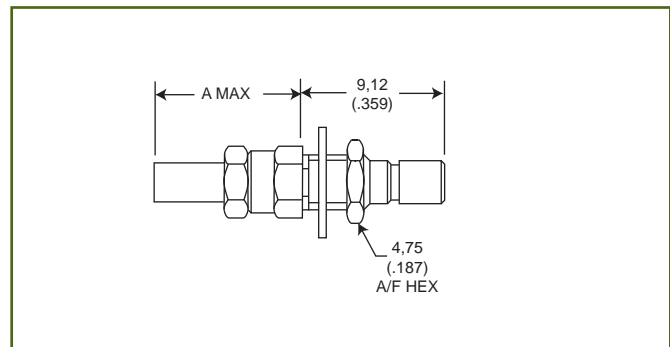


Assembly Instructions

- A51 - 428 - 3188220 AI 129 (Page 45)
- A51 - 428 - 3196220 AI 696 (Page 45)
- A51 - 428 - 3875220 AI 696 (Page 45)

Bulkhead Jack

Part Number	Cable Numbers	A
051 - 427 - 3188220	RG174/U, 316/U	9,93 (.391)
A51 - 427 - 3196220	RG178/U, 196/U	10,41 (.410)

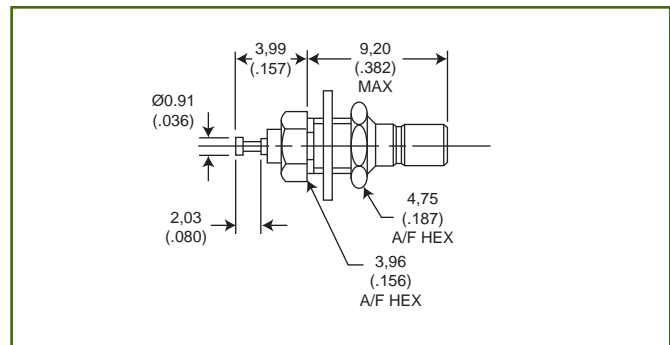


Mounting Plan U (Page 40)

Assembly Instructions AI-128 (Page 44)

Bulkhead Receptacle - Rear Mount
Mounting Nut Outside Panel

Part Number
051 - 443 - 0000220

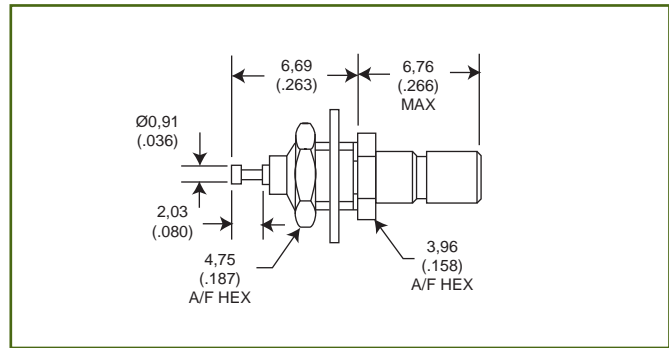


Mounting Plan U (Page 40)

BULKHEAD AND PRINTED CIRCUIT RECEPTACLES

Bulkhead Receptacle - Front Mount
Mount Nut Inside Panel

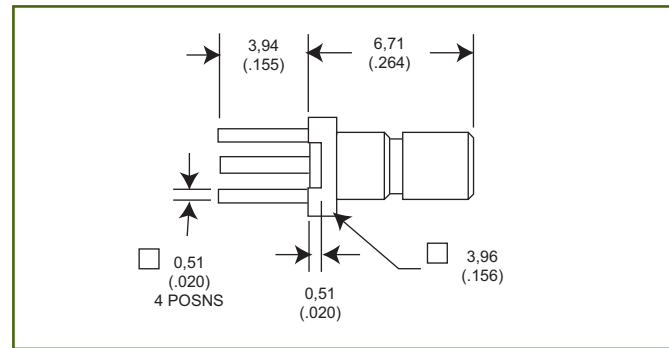
Part Number
051 - 445 - 0000220



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Printed Circuit Receptacle - Straight Jack

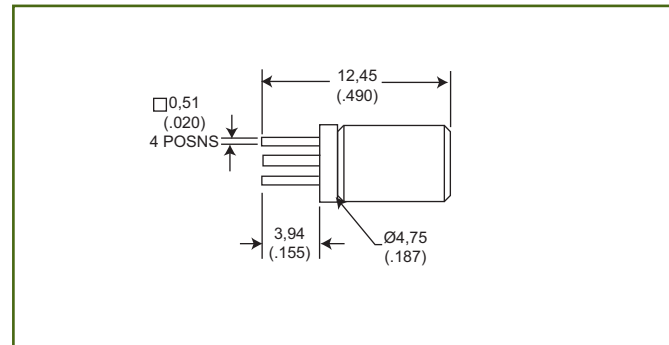
Part Number
A51 - 451 - 0000220



Mounting Plan C (Page 40)

Printed Circuit Receptacle - Straight Plug

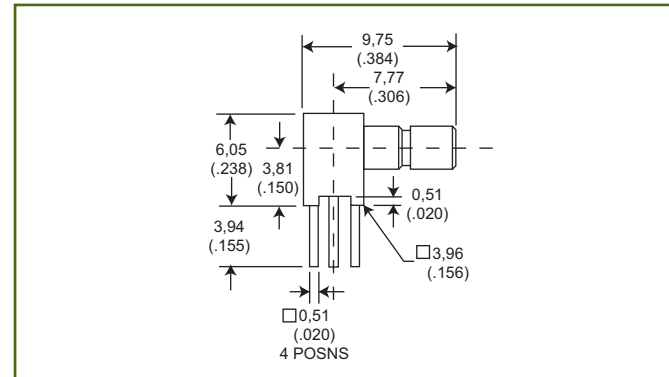
Part Number
051 - 452 - 0000220



Mounting Plan C (Page 40)

Printed Circuit Receptacle - Right Angle Jack

Part Number
A51 - 453 - 0000220



Mounting Plan C (Page 40)



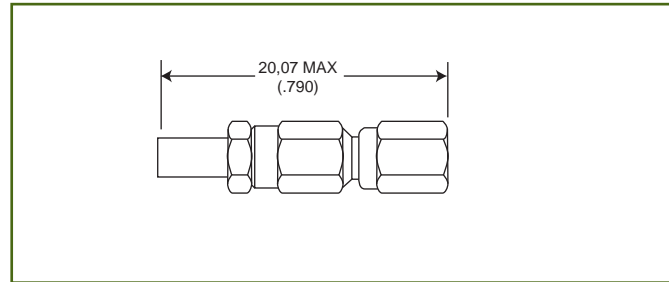
Dimensions shown in mm (inch)
Specifications and dimensions subject to change

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PLUGS AND RECEPTACLES

Straight Plug

Part Number	Cable Numbers
050 - 424 - 3188220	RG174/U, 316/U
050 - 424 - 3196220	RG178/U, 196/U

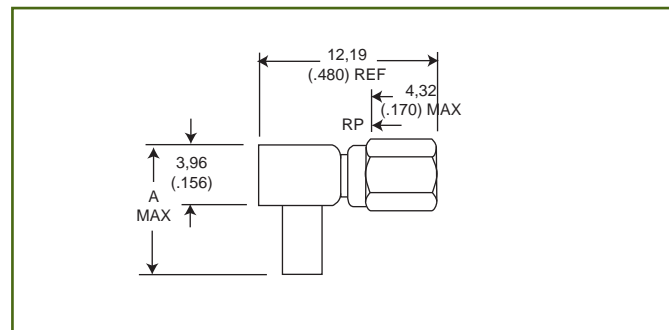


Assembly Instructions

- 050 - 424 - 3188220 AI 663 (Page 44)
- 050 - 424 - 3196220 AI 128 (Page 44)

Right Angle Plug

Part Number	Cable Numbers	A
050 - 428 - 3188220	RG174/U, 316/U	10,16 (.400)
050 - 428 - 3196220	RG178/U, 196/U	9,40 (.370)

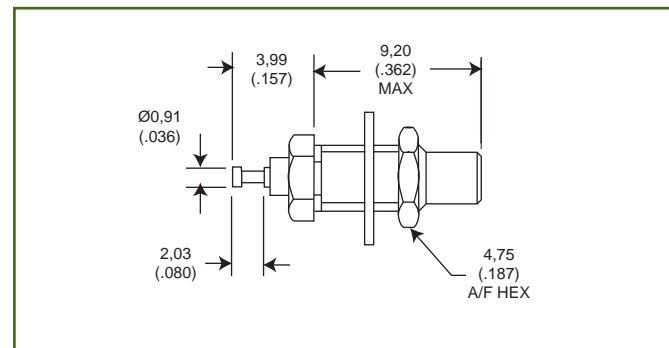


Assembly Instructions

- 050 - 428 - 3188220 AI 286 (Page 45)
- 050 - 428 - 3196220 AI 696 (Page 45)

Bulkhead Receptacle - Rear Mount
Mounting Nut Outside Panel

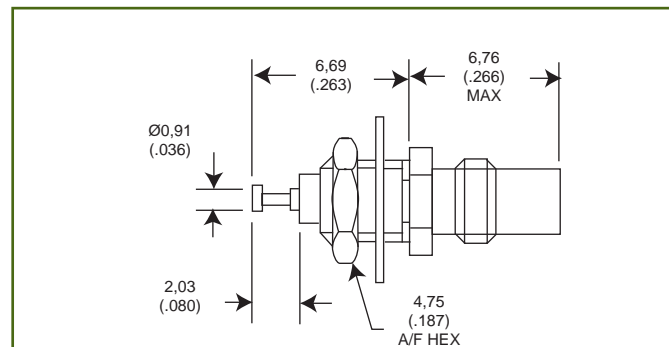
Part Number
050 - 443 - 0000220



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Bulkhead Receptacle - Front Mount
Mounting Nut Inside Panel

Part Number
050 - 445 - 0000220



Mounting Plan U (Page 40)

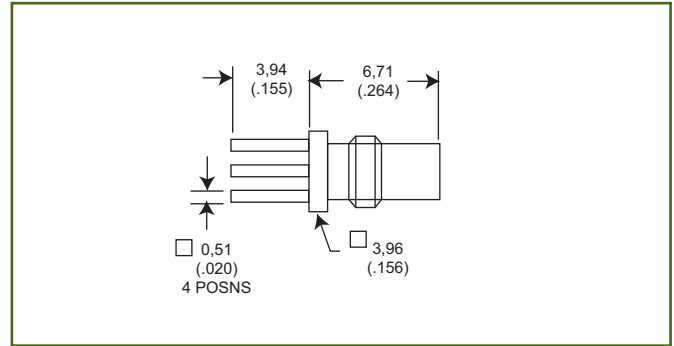
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PRINTED CIRCUIT RECEPTACLES

Printed Circuit Receptacle - Straight Jack

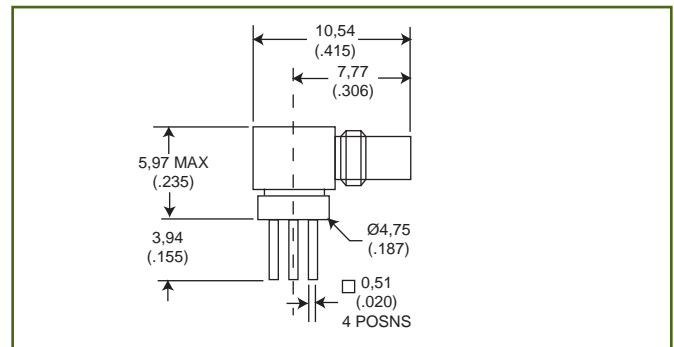
Part Number
050 - 451 - 0000220



Mounting Plan C (Page 40)

Printed Circuit Receptacle, Right Angle Jack

Part Number
050 - 453 - 0000220



Mounting Plan C (Page 40)

Mouser Electronics

Authorized Distributor

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[051-424-3188220](#) [051-452-0000220](#) [A51-424-3196220](#) [A51-428-3196220](#) [A51-428-3188220](#)