2019 - 2020

THE PERFORMANCE LEADER IN

MICROWAVE CONNECTORS

SOUTHWEST MICROWAVE

1.0 mm (W) DC TO 110 GHz CONNECTORS

- Low VSWR
- Low Insertion Loss
- Low RF Leakage
- High Temperature
- Rugged & Durable
- Excellent Repeatability

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1.0 mm (W) DC to 110 GHz high-frequency connectors from Southwest Microwave include field-replaceable 2- and 4-hole Flange-mount and standard or metric Thread-in Connectors, Direct-solder Cable Connectors, clamp-on End Launch Connectors, and the first 1.0 mm Vertical Launch Connector.

SPECIFICATIONS

Electrical:

- Mode Free Through 110 GHz
- Low VSWR: DC to 110 GHz ..... 1.25:1 max
- Low RF Leakage ≤ 100 dB
- Low Insertion Loss: < 0.6 dB

Temperature:

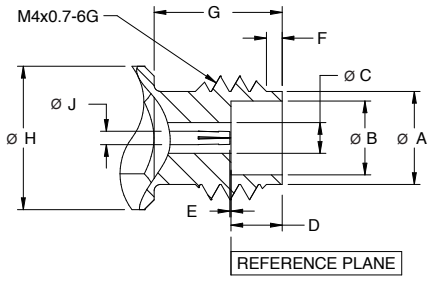
- -55°C to + 165°C

Materials / Construction:

- Materials and finishes vary by product type. For data, refer to website or request Product Drawings and Specifications for desired connector.

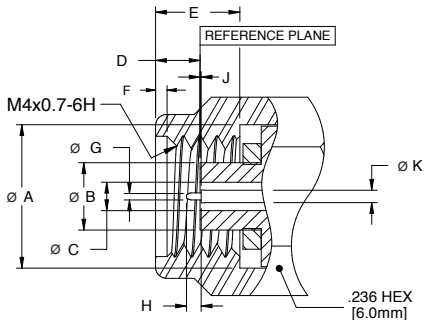
INTERFACE STANDARDS

1.0 mm (W) JACK (SOCKET CONTACT)



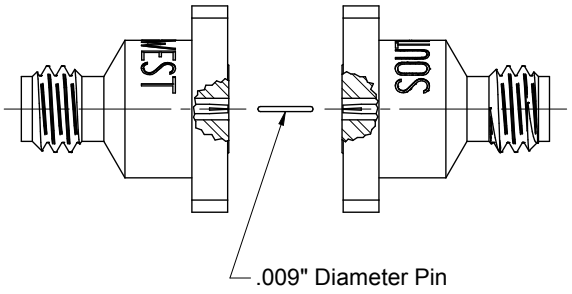
LTR	MINIMUM		MAXIMUM	
	inch	mm	inch	mm
A	.1161	2.95	.1201	3.05
B	.0937	2.38	.0941	2.39
C	.0393	0.997	.0395	1.003
D	.063	1.60	.067	1.70
E	0	0	.002	0.051
F	.0177	0.45	.0217	0.55
G	.158	4.01	-	-
H	.157 HEX	4.0 HEX	-	-
J	.01697	0.431	.017	0.437

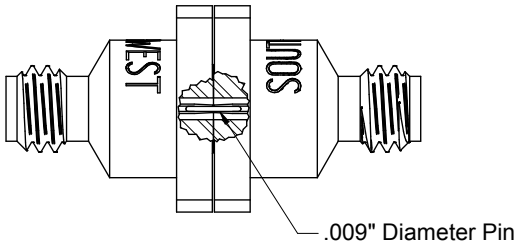
1.0 mm (W) PLUG (PIN CONTACT)



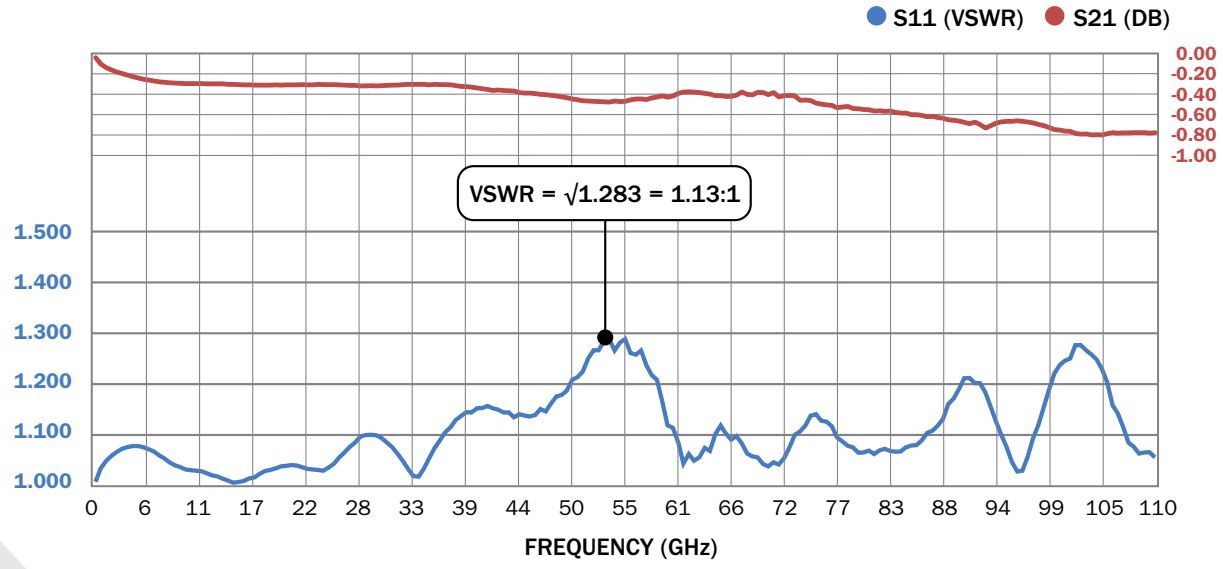
LTR	MINIMUM		MAXIMUM	
	inch	mm	inch	mm
A	.1634	4.15	.1674	4.25
B	.09340	2.362	.0934	2.372
C	.0393	0.997	.0395	1.003
D	.0496	1.26	.0732	1.86
E	.1118	2.84	.1196	3.04
F	.1118	0.3	.0197	0.5
G	.0097	0.247	.0099	0.253
H	0.170	0.433	.0206	0.523
J	0	0	.002	0.051
K	.01697	0.431	.01721	0.437

Data shown represents two 1.0 mm (W) 9 mil pin connectors tested back-to-back. To extract VSWR data for a single connector, take the square root of the VSWR data point and divide the insertion loss data point by two.



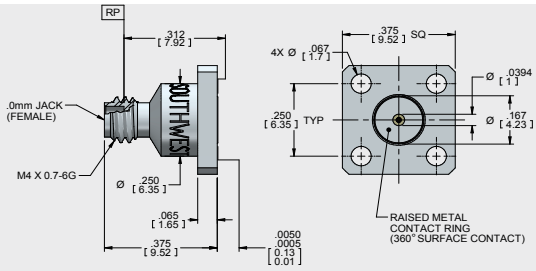


1.0 mm (W) (CONNECTOR NO. 2412-01SF) BACK-TO-BACK TEST DATA



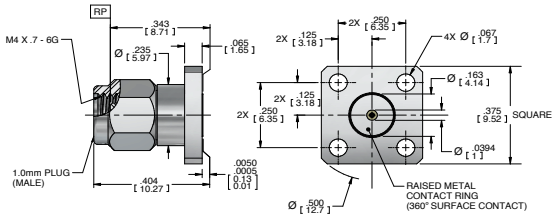
VSWR = √1.283 = 1.13:1 maximum for each connector, as shown.
Contact Southwest Microwave for performance specifications for all other 1.0 mm (W) connectors.

FLANGE JACK (FEMALE): 4 HOLE .375 SQUARE



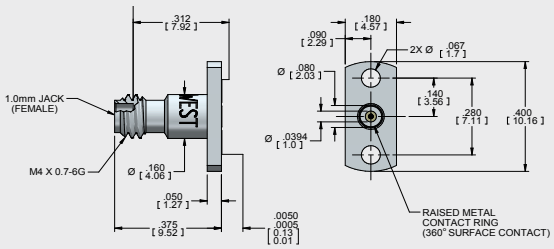
ACCEPTS PIN DIA.	CONNECTOR NO.
.009	2412-01SF

FLANGE PLUG (MALE): 4 HOLE .375 SQUARE



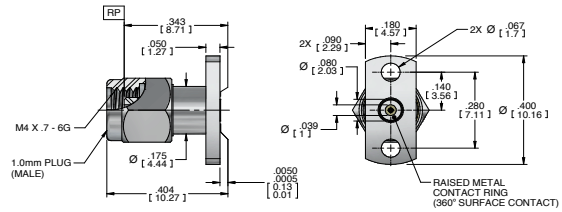
ACCEPTS PIN DIA.	CONNECTOR NO.
.009	2411-01SF

FLANGE JACK (FEMALE): 2 HOLE .400 X .180



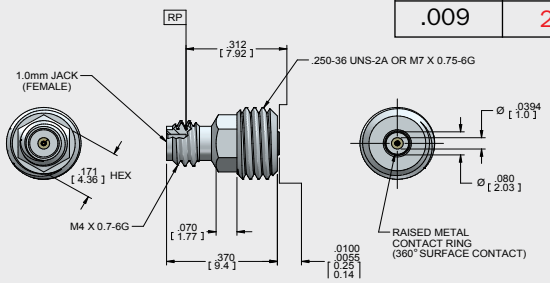
ACCEPTS PIN DIA.	CONNECTOR NO.
.009	2414-01SF

FLANGE PLUG (MALE): 2 HOLE .400 X .180



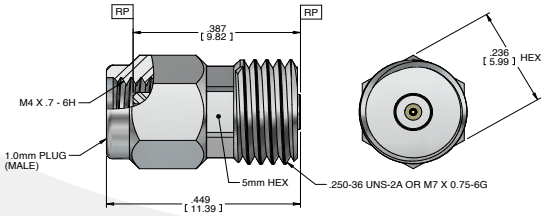
ACCEPTS PIN DIA.	CONNECTOR NO.
.009	2413-01SF

THREAD-IN: STEP THREAD JACK (FEMALE): STANDARD OR METRIC REAR THREAD



ACCEPTS PIN DIA.	CONNECTOR NO.	REAR THREAD TYPE
.009	2420-01SF	.250-36 UNS-2A (STD)
.009	2420-05SF	M7 X 0.75-6G (METRIC)

THREAD-IN: STEP THREAD JACK (MALE): STANDARD OR METRIC REAR THREAD



ACCEPTS PIN DIA.	CONNECTOR NO.	REAR THREAD TYPE
.009	2421-01SF	.250-36 UNS-2A (STD)
.009	2421-03SF	M7 X 0.75-6G (METRIC)

1.85 mm (V) to 1.0 mm (W) Adapters (67 GHz)	
1.85 mm (F) to 1.0 mm (F):	182410-00SF
1.85 mm (F) to 1.0 mm (M):	182420-00SF
1.85 mm (M) to 1.0 mm (F):	182430-00SF
1.85 mm (M) to 1.0 mm (M):	182440-00SF

1.0 mm (W) to 0.9 SuperMini (67 GHz)	
1.0 mm (F) to 0.9 SuperMini (M):	245220-00SF
1.0 mm (F) to 0.9 SuperMini (F):	245310-00SF

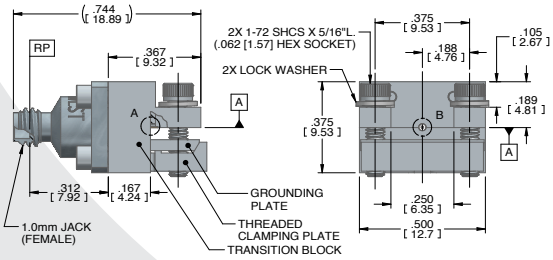
1.0 mm (W) to SSBP Coax Contacts (110 GHz)	
1.0 mm (F) to SSBP Coax Contacts (F):	195020-01G
1.0 mm (F) to SSBP Coax Contacts (M):	195110-01G

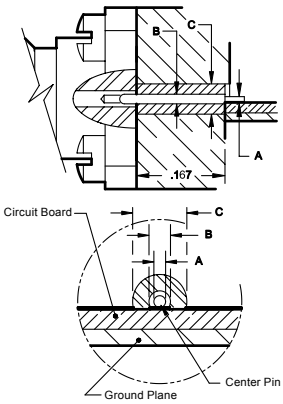
1.0 mm (W) Adapters (110 GHz)	
1.0 mm (F) to 1.0 mm (M):	2430-00SF
1.0 mm (M) to 1.0 mm (M):	2431-00SF
1.0 mm (F) to 1.0 mm (F):	2432-00SF

END LAUNCH CONNECTORS (CLAMP-ON)

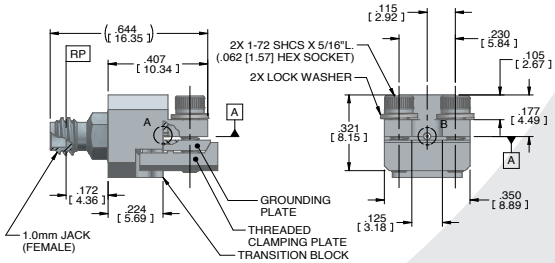
Pin Diameter		Dielectric	Profile	
Dim A Board Pin	Dim B Internal	Dim C	Low	Reduced
.005	.009	.0290	2492-04A-6 (F)	2492-04A-9 (M)
			2492-04A-14 (F)	N/A
			2493-04A-6 (M)	N/A
			2493-04A-7 (M)	N/A
			2493-04A-7 (M)	N/A

LOW PROFILE

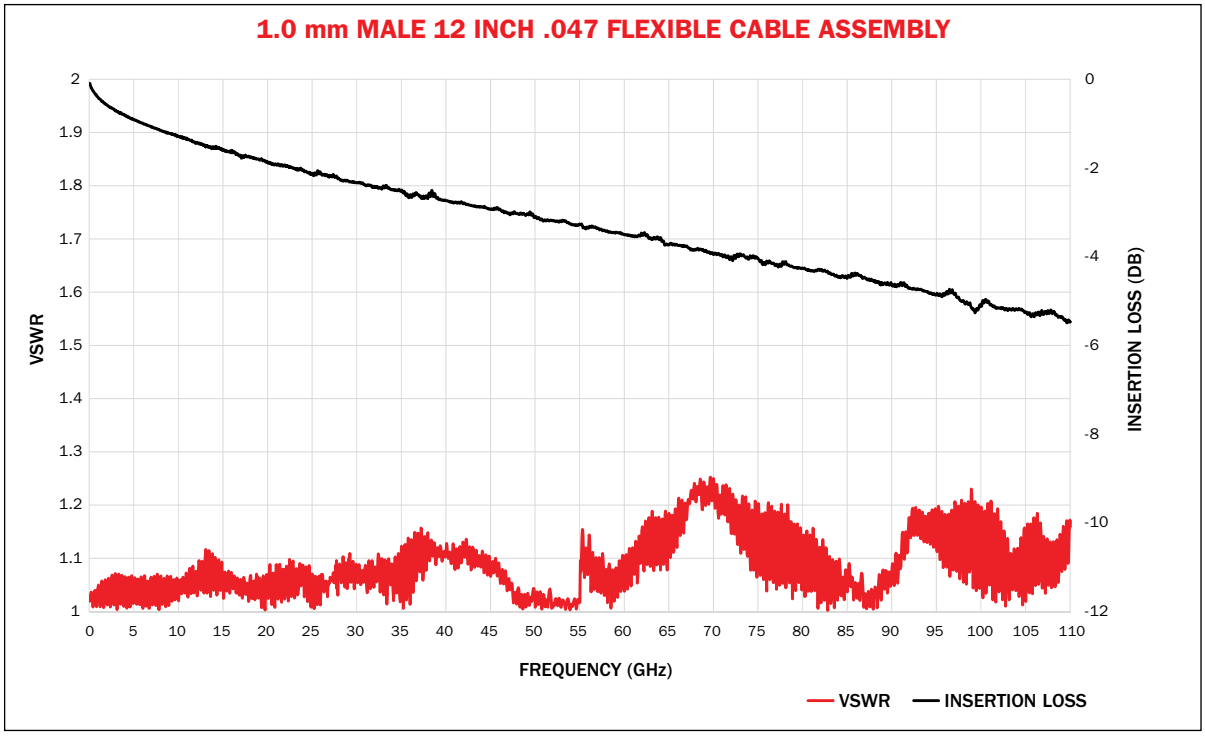




REDUCED SIZE



Southwest Microwave can supply complete cable assemblies (0.047 cable) to simplify high-performance interface to our 1.0 mm (W) Flange Mount, Thread-in and End Launch connectors. *Contact the factory for more information.*

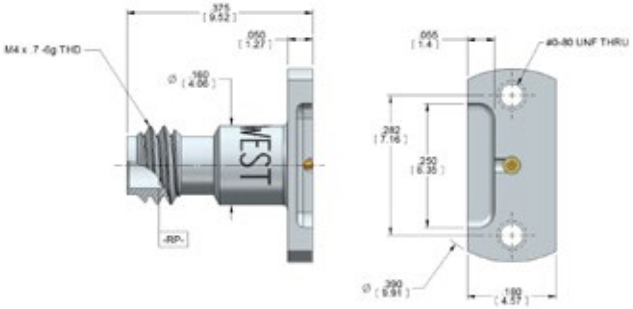


Cable Center Conductor Dia.	Cable	Attachment Type	Cable Connector No.
.0113	.047 SC Flex	Direct Solder	19370-01G
.0080	.031 Semi-Rigid	Direct Solder	19370-03G
.0113	.047 SC Flex	Direct Solder	19270-01G

NEW

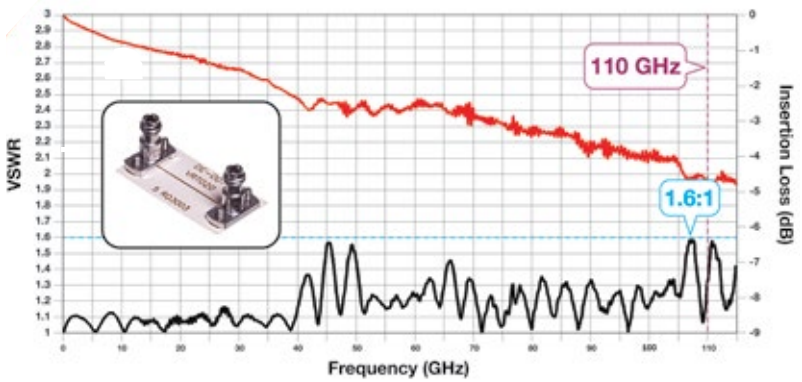
INDUSTRY'S FIRST SOLDERLESS COMPRESSION-MOUNT 1.0 mm VERTICAL LAUNCH CONNECTOR

VSWR of 1.35:1 max across 70 to 105 GHz and a VSWR of 1.6:1 max across the complete 110 GHz bandwidth. Data represents two 1.0 mm connectors mounted on 5 mil RO3003 test-board.



1.0 mm (W) Jack (F) 2-hole, .390 Long – 24359-001

1.0 mm (110 GHz) Test Data



DESIGN ASSISTANCE

- Printed circuit board layout and connector part number recommendation
- 3D models for mechanical layout
- HFSS models (version 18.0 or newer) for EM simulations upon request and availability

MATERIALS AND CONSTRUCTION

- *Connector Housing:* CRES Alloy UNS S30300 per ASTM A582, Passivated per ASTM A967
- *Contact:* BeCu, UNS C17300 per ASTM B196, Au plated per MIL-G-45204 or ASTM B488
- *Center Contact Capture:* Ultem 1000 per ASTM D5205

2 0 1 9 - 2 0 2 0

THE PERFORMANCE LEADER IN MICROWAVE CONNECTORS

SOUTHWEST MICROWAVE

1.0 mm (W) DC to 110 GHz Connectors

Since 1981, Southwest Microwave has been providing a broad range of high-performance microwave connectors and adapters, currently available from DC to 110 GHz, for hi-rel / space, defense, instrumentation, integrated-circuit and PCB evaluation applications. Built in the USA to rigorous performance and quality standards, Southwest Microwave interconnect solutions offers the industry's lowest VSWR, insertion loss and RF leakage.

Low VSWR
Low Insertion Loss
Low RF Leakage
High Temperature
Rugged & Durable
Excellent Repeatability

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