The Performance Leader in Microwave Connectors

SOUTHWEST MICROWAVE

1.85 mm (V) Series DC to 67.0 GHz Connectors

Supplement to Catalog

Southwest Microwave, Inc.

Tempe, Arizona, USA

+1 (480) 783-0201 ■ infompd@southwestmicrowave.com

www.southwestmicrowave.com

SOUTHWEST MICROWAVE

1.85 mm (V) Series DC to 67.0 GHz Specifications

Electrical:

- Mode Free Through 67 GHz
- Low VSWR: DC to 18.0 GHz.....1.10:1 max
  18.0 to 40.0 GHz.....1.15:1 max
  40.0 to 50.0 GHz.....1.18:1 max
  50.0 to 67.0 GHz.....1.25:1 max
- Low RF Leakage ≤ -100 dB
- Low Insertion Loss

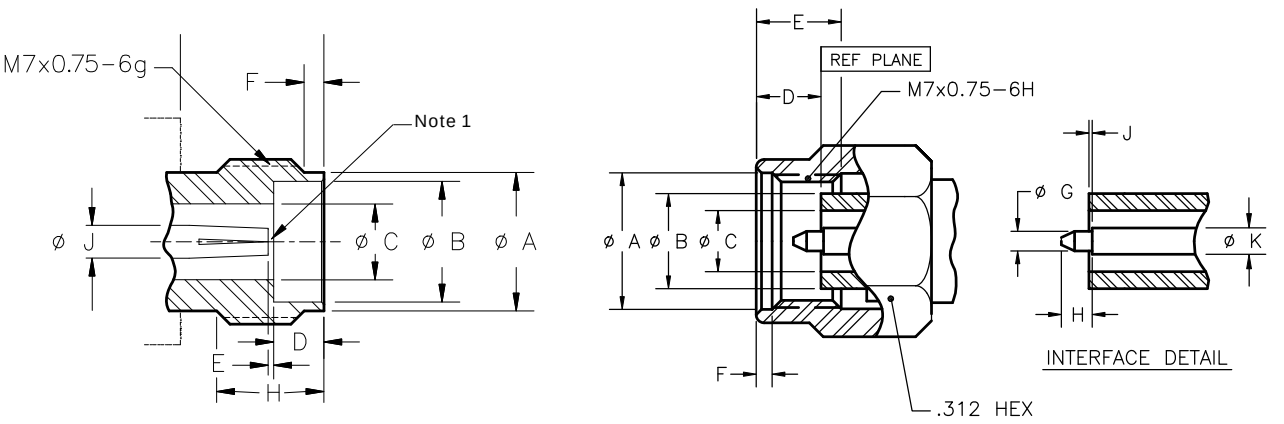
Temperature:

- -55°C to + 165°C

Materials / Construction:

- Materials and finishes vary by product type. For data, refer to Full Line Catalog or request Product Drawings and Specifications for desired products.

Interface Standards



1.85mm JACK (SOCKET CONTACT)				
LTR	INCHES (MILLIMETERS)			
	MINIMUM		MAXIMUM	
A	.228	(5.79mm)	.232	(5.89mm)
B	.1878	(4.770mm)	.1888	(4.796mm)
C	.0725	(1.841mm)	.0731	(1.857mm)
D	.118	(3.00mm)	.122	(3.10mm)
E	.000	(0.00mm)	.005	(0.13mm)
F	.055	(1.40mm)	.065	(1.65mm)
H	.189	(4.81mm)	.199	(5.06mm)
J	.0313	(0.795mm)	.0319	(0.810mm)

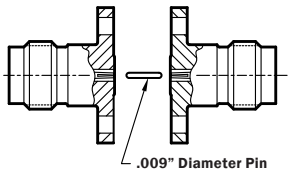
1.85mm PLUG (PIN CONTACT)				
LTR	INCHES (MILLIMETERS)			
	MINIMUM		MAXIMUM	
A	.276	(7.01mm)	.280	(7.11mm)
B	.1865	(4.737mm)	.1872	(4.755mm)
C	.0725	(1.842mm)	.0730	(1.854mm)
D	.0729	(1.852mm)	.0965	(2.451mm)
E	.172	(4.37mm)	.182	(4.62mm)
F	.020	(0.51mm)	.030	(0.76mm)
G	.0196	(0.498mm)	.0203	(0.516mm)
H	.0525	(1.335mm)	.0569	(1.445mm)
J	.000	(0.00mm)	.005	(0.13mm)
K	.0311	(0.790mm)	.0320	(0.813mm)

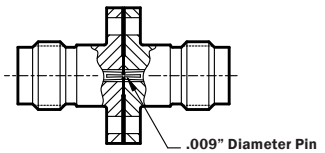
Notes: 1. Meets VSWR when mated with .0196 / .0206 (0.498 mm / 0.523 mm) Diameter Pin. 2. Interface per IEC 169 Grade 1

1.85 mm (V) Series DC to 67.0 GHz Data

1.85 mm 9 mil Connector Data

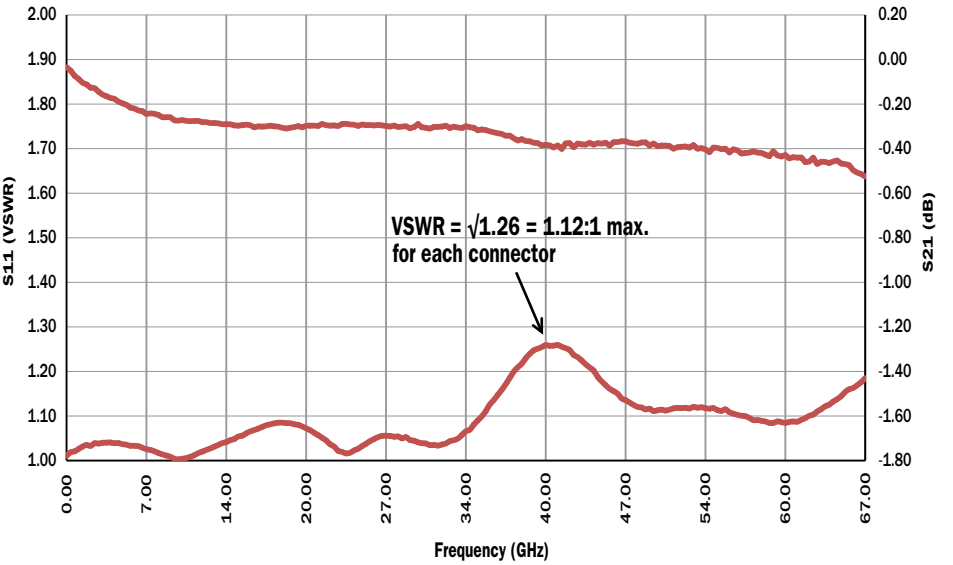
Data shown represents two connectors tested back-to-back. To extract VSWR data for a single connector, take the square root of the VSWR data point and divide the insertion loss data point by two.





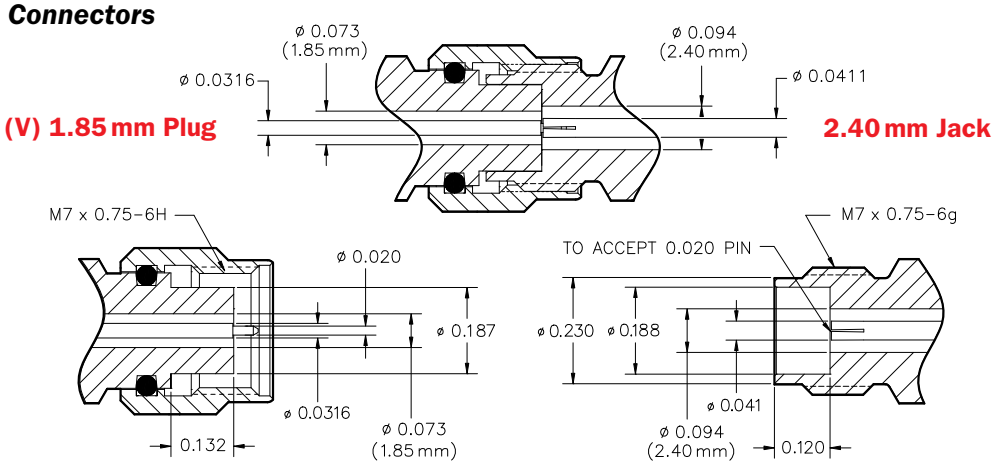
VSWR = √1.26 = 1.12:1 maximum for each connector, as shown. Contact Southwest Microwave for performance specifications for 1.85mm and all other connectors.

1812-02SF Back-to-Back Test Data



Interface Compatibility

Interface Compatibility with 2.40 mm Connectors



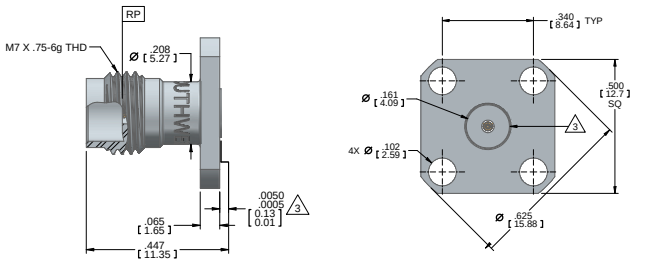
1.85 mm Plug/Male Connector

2.40 mm Jack/Female Connector

SOUTHWEST MICROWAVE

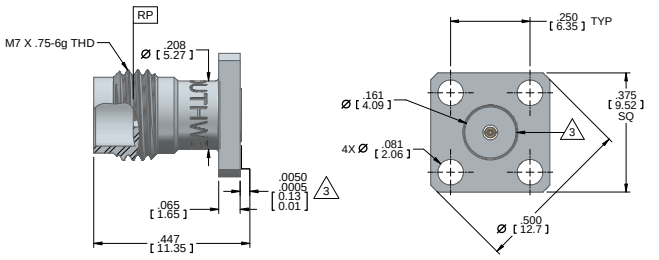
1.85 mm (V) Series DC to 67.0 GHz Jack (Female) Connectors

FLANGE JACK (FEMALE) 4 HOLE .500 SQUARE



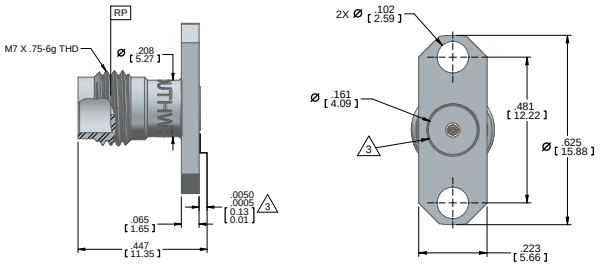
ACCEPTS PIN DIA.	Connector No.
.012	1812-04SF
.009	1812-01SF

FLANGE JACK (FEMALE) 4 HOLE .375 SQUARE



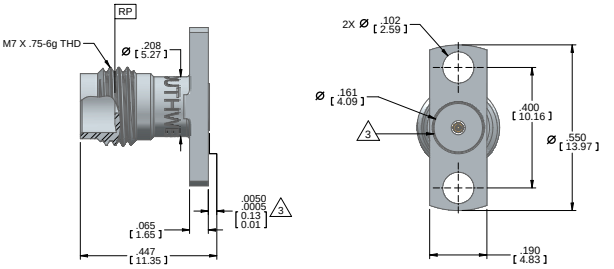
ACCEPTS PIN DIA.	Connector No.
.012	1812-05SF
.009	1812-02SF

FLANGE JACK (FEMALE) 2 HOLE .625 x .223



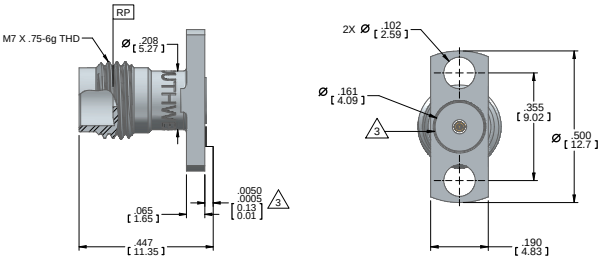
ACCEPTS PIN DIA.	Connector No.
.012	1814-04SF
.009	1814-01SF

FLANGE JACK (FEMALE) 2 HOLE .550 x .190



ACCEPTS PIN DIA.	Connector No.
.012	1814-05SF
.009	1814-02SF

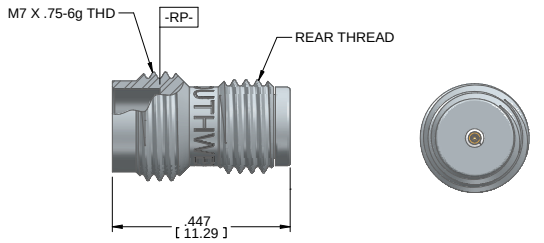
FLANGE JACK (FEMALE) 2 HOLE .500 x .190



ACCEPTS PIN DIA.	Connector No.
.012	1814-06SF
.009	1814-03SF

THREAD-IN JACK (FEMALE) STANDARD M6x .75 REAR THD

.012	1820-04SF
.009	1820-01SF

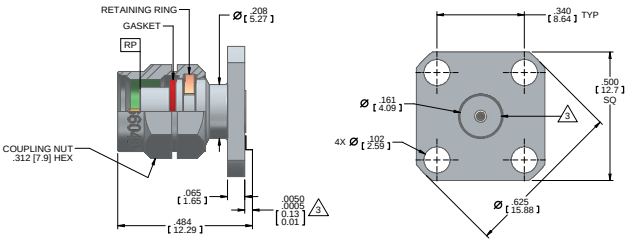


THREAD-IN JACK (FEMALE) OPTIONAL 1/4-36 REAR THD

.012	1820-05SF
.009	1820-03SF

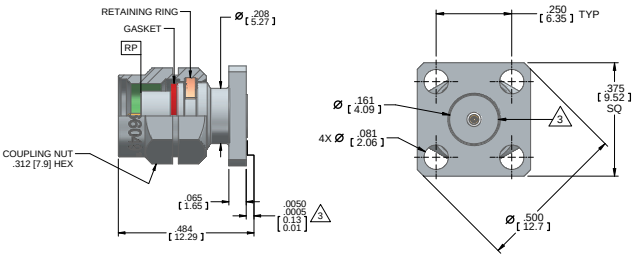
1.85 mm (V) Series DC to 67.0 GHz Plug (Male) Connectors

FLANGE PLUG (MALE)
4 HOLE .500 SQUARE



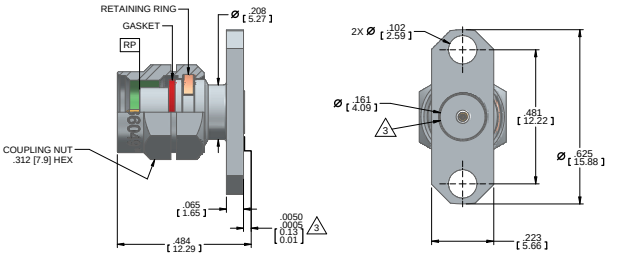
ACCEPTS PIN DIA.	Connector No.
.012	1811-04SF
.009	1811-01SF

FLANGE PLUG (MALE)
4 HOLE .375 SQUARE



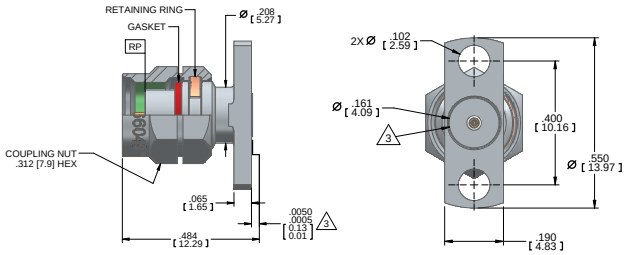
ACCEPTS PIN DIA.	Connector No.
.012	1811-05SF
.009	1811-02SF

FLANGE PLUG (MALE)
2 HOLE .625 x .223



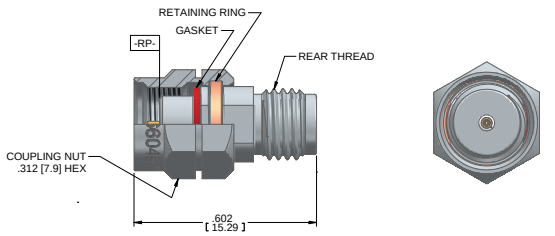
ACCEPTS PIN DIA.	Connector No.
.012	1813-04SF
.009	1813-01SF

FLANGE PLUG (MALE)
2 HOLE .550 x .190



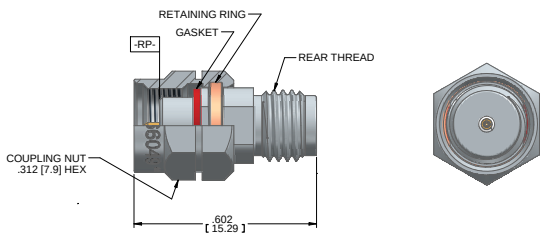
ACCEPTS PIN DIA.	Connector No.
.012	1813-05SF
.009	1813-02SF

THREAD-IN PLUG (MALE)
STANDARD M6x .75 REAR THD



ACCEPTS PIN DIA.	Connector No.
.012	Contact Factory For Availability
.009	

THREAD-IN PLUG (MALE)
OPTIONAL 1/4-36 REAR THD



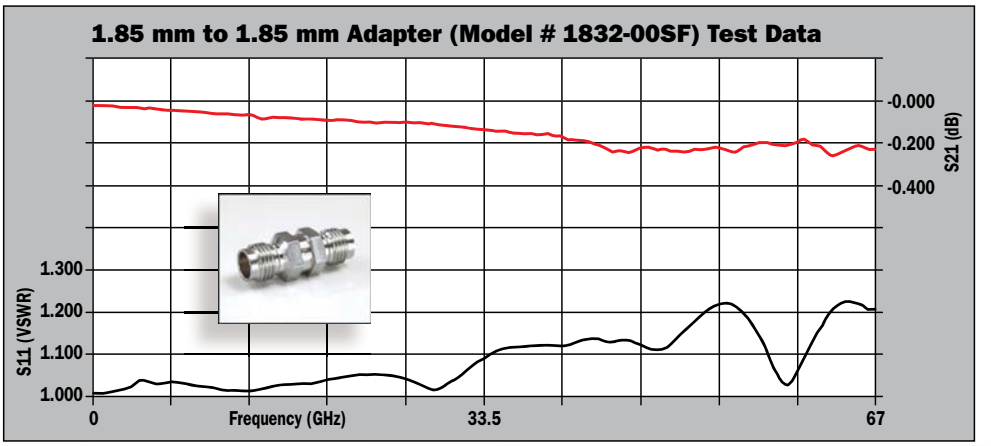
ACCEPTS PIN DIA.	Connector No.
.012	Contact Factory For Availability
.009	

SOUTHWEST MICROWAVE

1.85 mm (V) Series Adapters

Specifications:

- Low VSWR
  DC to 18.0 GHz.....1.10:1 max
  18.0 to 40.0 GHz....1.15:1 max
  40.0 to 50.0 GHz....1.18:1 max
  50.0 to 67.0 GHz....1.25:1 max
- Low Insertion Loss
- Leakage: <-100dB
- Temperature Rating:
  -55°C to + 165°C



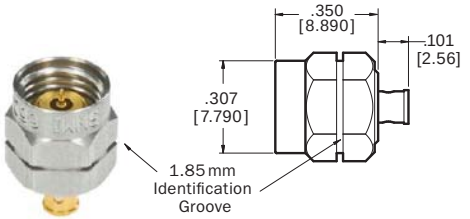
1.85 mm (f) to (m)
1830-00SF

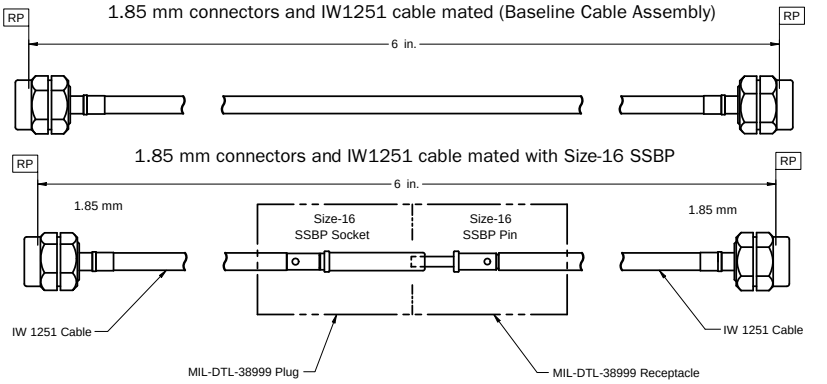
1.85 mm (m) to (m)
1831-00SF

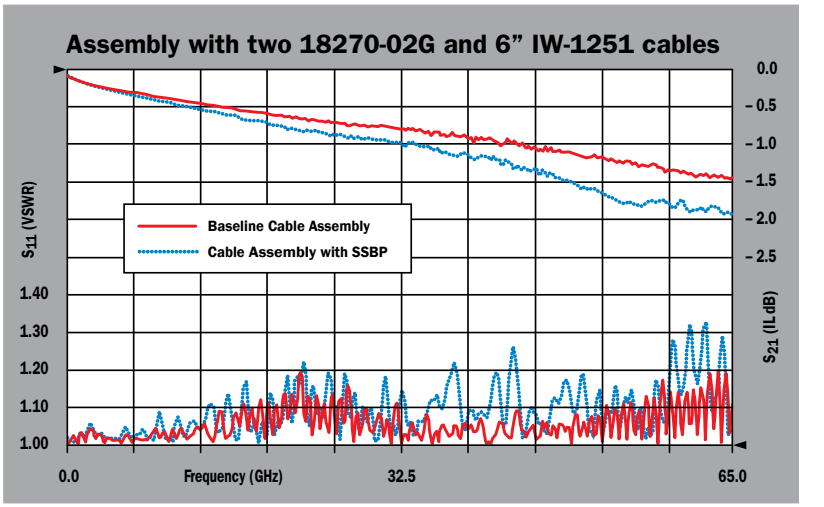
1.85 mm (f) to (f)
1832-00SF

1.85 mm (V) Series Direct Solder Cable Connectors

Cable Center Conductor Dia.	Cable	Cable Conn. No.
.0113	.047	18270-01G
.0126	.047 LL	18270-03G
.0201	.086	18270-02G



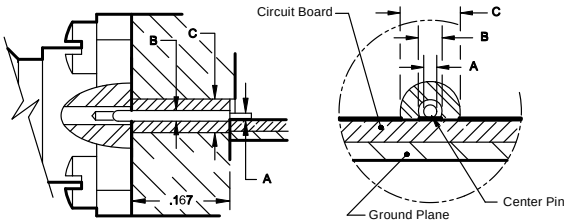


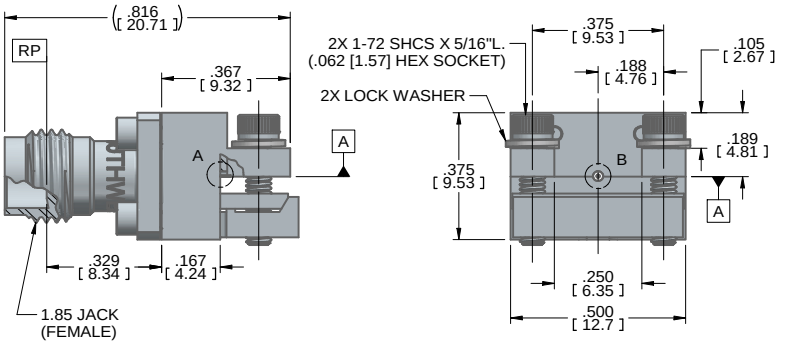


Detailed information on Direct Solder and on other Cable Connectors, including 0.9mm/SSBT and SSBP for use in multicontact D-Subminiature and MIL-DTL-38999 connectors, is shown in other catalogs and Southwest Microwave website. Users are cautioned that performance is dependent upon the specific cable selected and third-party cable preparation, which is beyond the control of Southwest Microwave.

1.85 mm (V) Series End Launch Connectors

Pin Diameter		Dielectric Dia.	Low Profile ⚠1	
Dim A Board Pin	Dim B Internal	Dim C	Female	Male
.007	.012	.0390	1892-03A-6	1893-03A-6
.005	.009	.0290	1892-04A-6	1893-04A-6

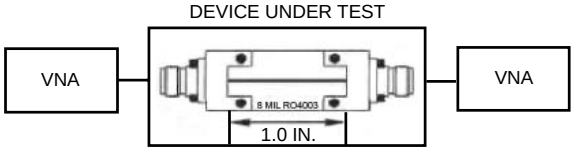


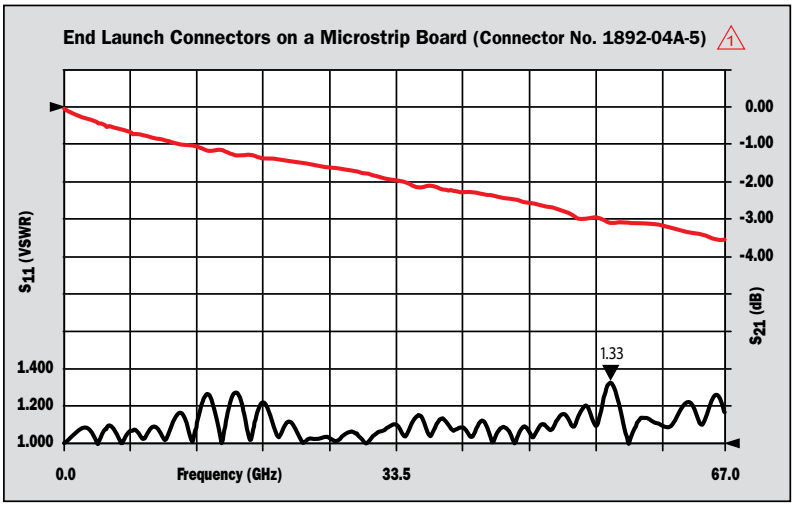


Test Data, Microstrip

Showing test results to 67 GHz for two 1892-04A-5 End Launch Connectors on a RO4003 microstrip board with top ground launch. This shows both VSWR and Insertion Loss for the test board and the two connectors. This is not an optimized test board and is used to illustrate typical assembly.

Contact Southwest Microwave for suggested board-launch geometries based upon frequency and board material, for Grounded Coplanar/ GCPWG and Microstrip applications.





1.33 is the maximum for two 1892-04A-5 End Launch Connectors on a SMI microstrip test board using .008" Rogers RO4003 microstrip board.

⚠1 Note: End Launch Connectors with numbers ending in "-6" are Low Silhouette as shown. Similar End Launch connectors ending in "-5" are Regular/Higher Silhouette versions. Launch geometry and connector/electrical data and performance are the same. Refer to the "End Launch Connectors" data in full-line catalog or Southwest Microwave website for dimensions.

Contact Southwest Microwave for other End Launch connectors ranging from SMA to miniature 0.9mm versions and for select Non-Magnetic models.

SOUTHWEST MICROWAVE

The Performance Leader in Microwave Connectors

1.85 mm (V) Series DC to 67.0 GHz Connectors

Supplement to Catalog

Southwest Microwave, Inc. is the leader in hi-performance interconnect products for millimeter wave and microwave applications. Providing the best value through performance as well as:

- *Low VSWR*
- *Low Insertion Loss*
- *Low RF Leakage*
- *High Temperature*
- *Higher Power Handling*
- *Excellent Repeatability*
- *Rugged & Durable*

ISO 9001 COMPLIANT · MATERIAL TRACEABILITY · REACH Compliant · DFARS COMPLIANT · Pb lead-free · RoHS compliant

Southwest Microwave, Inc.
9055 S. McKemy St., Tempe, AZ 85284-2946 USA
Phone: +1 (480) 783-0201 ■ infompd@southwestmicrowave.com
www.southwestmicrowave.com