

Ultra-Wide Band Kelvin Bias Tee, 100 MHz - 110 GHz, 1.00mm(f) input, 1.00mm(m) output, SMC(m) bias and sense

The FMBT1659 is an Ultra-Wide Band Kelvin Bias Tee that operates from 100 MHz to 110 GHz. This high precision design incorporates Metrology-Grade quality with robust mechanical packaging. Kelvin connection Bias Tees are designed for applications where both DC and RF signals must be applied to the Device Under Test (DUT) and precision DC measurements are required. A high resistance DC coil results in a voltage drop that leads to a DC biasing voltage error in the measurements. A Kelvin connection Bias Tee is used to eliminate DC biasing errors as the sense coil allows accurate measurement of the DC Voltage applied across the DUT. The module is RoHS Compliant and designed for a 50 ohm input/output impedance with low insertion loss of 2 dB typ and good return loss of 12 dB typ. The Bias Tee is rated for 0.4 Amps max DC current and +16V maximum DC voltage. Maximum RF input power handling is 1W. The compact package uses a W1 (1.00mm) female connector at the RF input and a W1 (1.00mm) Male connector at the RF output. SMC female connectors are used for DC Bias and Sense ports. Two (2) cable assemblies (48 inch BNC male to SMC male) are included and used for making the DC Bias and Sense connections. Designed for high reliability the FMBT1659 is guaranteed and not tested to meet MIL-STD-202F environmental test conditions for Thermal Shock, Mechanical Shock, and Vibration.

Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	0.1		110	GHz
Impedance		50		Ohms
Return Loss		12		dB
Insertion Loss		2		dB
DC Voltage			16	Vdc
DC Current			0.4	mA
Input Power (CW)			1	Watt
Rise Time		3.2		ps
Leakage Current		80		pA
Group Delay		108		ps

Mechanical Specifications

Size	
Length	1.56 in [39.62 mm]
Width	1.34 in [34.04 mm]
Height	0.41 in [10.41 mm]
Weight	0.285 lbs [129.27 g]

Environmental Specifications

Temperature	
Operating Range	-20 to +60 deg C
Storage Range	-25 to +65 deg C



Configuration:

- RF Port Connector: 1.0mm Fe-male
- DC/RF Port Connector: BNC Male
- DC Port Connector: SMC Female

Features:

- Precision Ultra-Wide Band Kelvin Bias Tee
- Metrology Grade
- 100 MHz to 110 GHz Frequency Range
- Insertion Loss: 2 dB typ
- Return Loss 12 dB typ
- Rating: 0.4A max DC Current and +16V max DC Voltage
- Rise Time 3.2 psec typ
- Group Delay 108 psec typ
- Leakage Current 80 pA typ
- RF Input Power Handling 1W max
- 50 Ohms Input and Output Matched
- W1 (1.0 mm) Female RF Input Connector
- W1 (1.0 mm) Male RF output Connector
- SMC Female Connectors for DC Bias and Sense Ports
- BNC Male to SMC Male Cable Assemblies Included
- Meets MIL-STD-202F Environmental Test Conditions for Thermal Shock, Mechanical Shock, and Vibration
- RoHS Compliant Design

Applications:

- High Frequency System

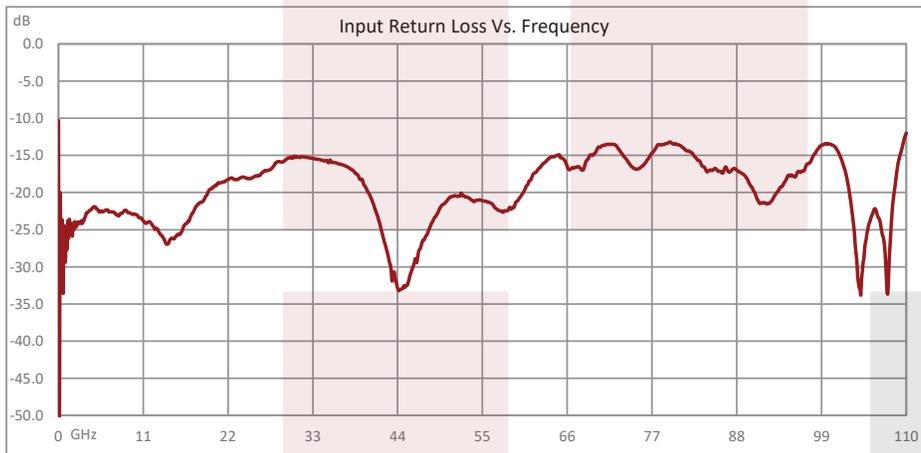
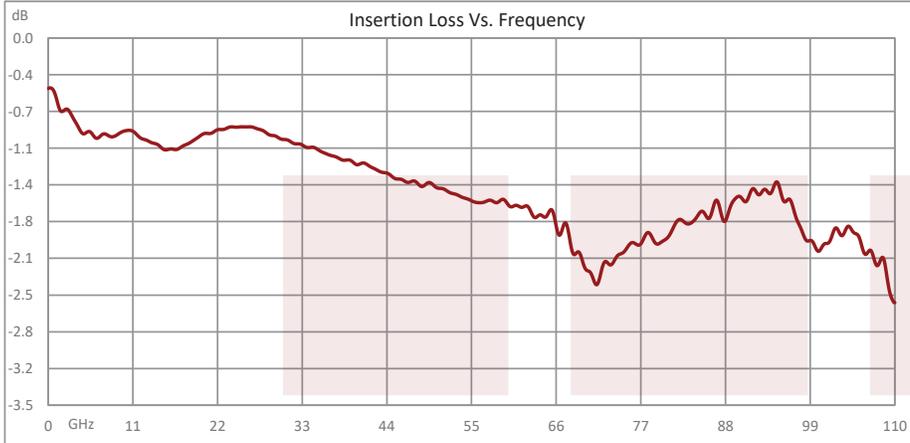
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Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Performance Data



Ultra-Wide Band Kelvin Bias Tee, 100 MHz - 110 GHz, 1.00mm(f) input, 1.00mm(m) output, SMC(m) bias and sense from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Ultra-Wide Band Kelvin Bias Tee, 100 MHz - 110 GHz, 1.00mm\(f\) input, 1.00mm\(m\) output, SMC\(m\) bias and sense FMBT1659](#)

URL: <https://www.fairviewmicrowave.com/bias-tee-100-mhz-110-ghz-0-ma-16-volts-dc-fmbt1659-p.aspx>

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