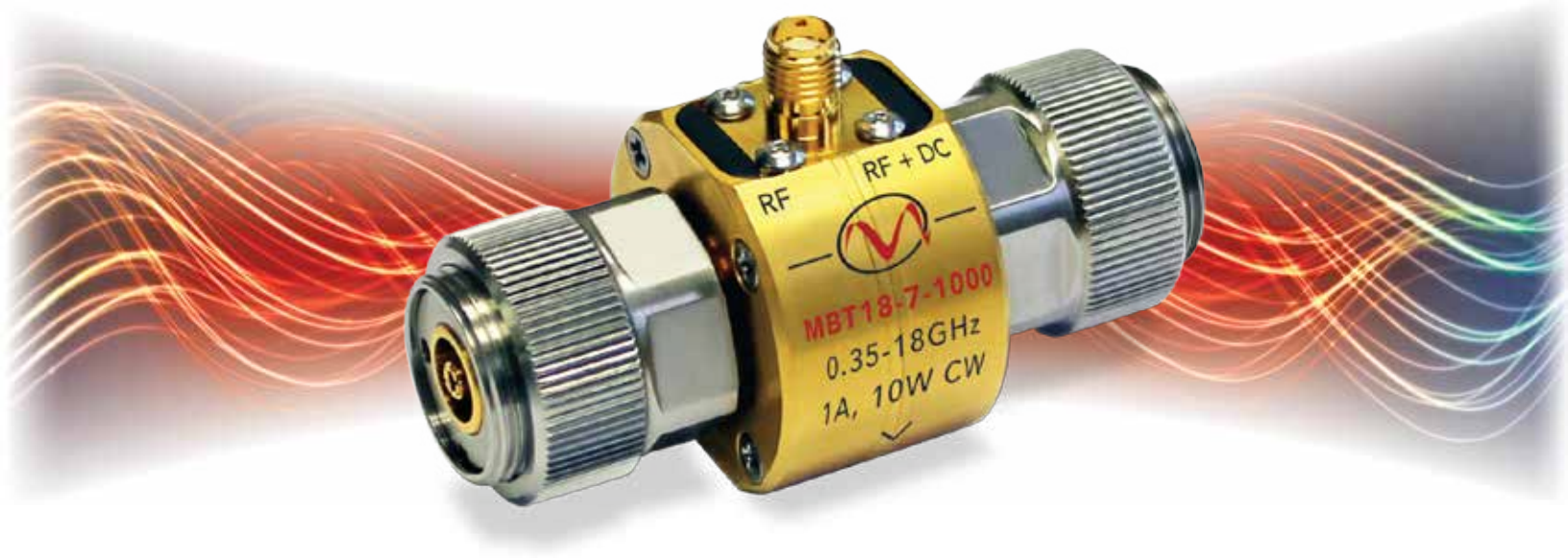
Microwave & RF Device Characterization Solutions

High-Power Low-Loss Pulsed Bias Tees

From

Maury Microwave

Your Calibration, Measurement & Modeling Solutions Partner!



Maury Microwave is ISO: 9001:2008/AS9100C Certified.

High-Power Low-Loss Pulsed Bias Tees

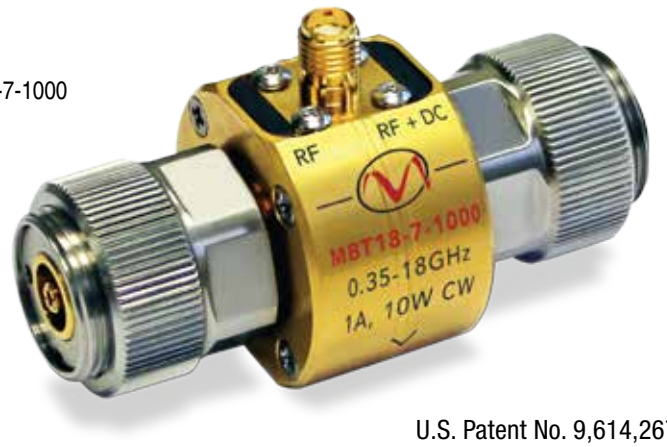
Features

- High RF Power Handling
- High Breakdown Voltage
- High Current Handling
- Low Insertion Loss
- Excellent Return Loss
- Pulsing Capable

Applications

- High Power System Biasing
- High Power Base Station Integration
- Test and Measurement (Load Pull, Pulsed Measurements, General Lab…)

Model:
MBT18-7-1000



U.S. Patent No. 9,614,267

Description

Bias tees are passive RF circuits which provide DC bias to an active device under test. Normally consisting of a capacitor and inductor, bias tees act as diplexers by combining low-frequency (DC) and high frequency (RF) signals onto a common port (RF+DC). In a classic capacitor/inductor design, the capacitor acts as a DC block and prevents DC bias from entering the RF path, while the inductor acts as an RF choke preventing RF energy from entering the DC instrumentation.

Typical applications include providing bias to amplifiers inside of complex systems including base stations and radios; and biasing discrete transistors or packaged devices in test and measurement applications such as DC/pulsed-bias S-parameters, DC/pulsed-IV, DC/pulsed-bias load pull, stability-, robustness-, burn-in-, pre-production- and production-test.

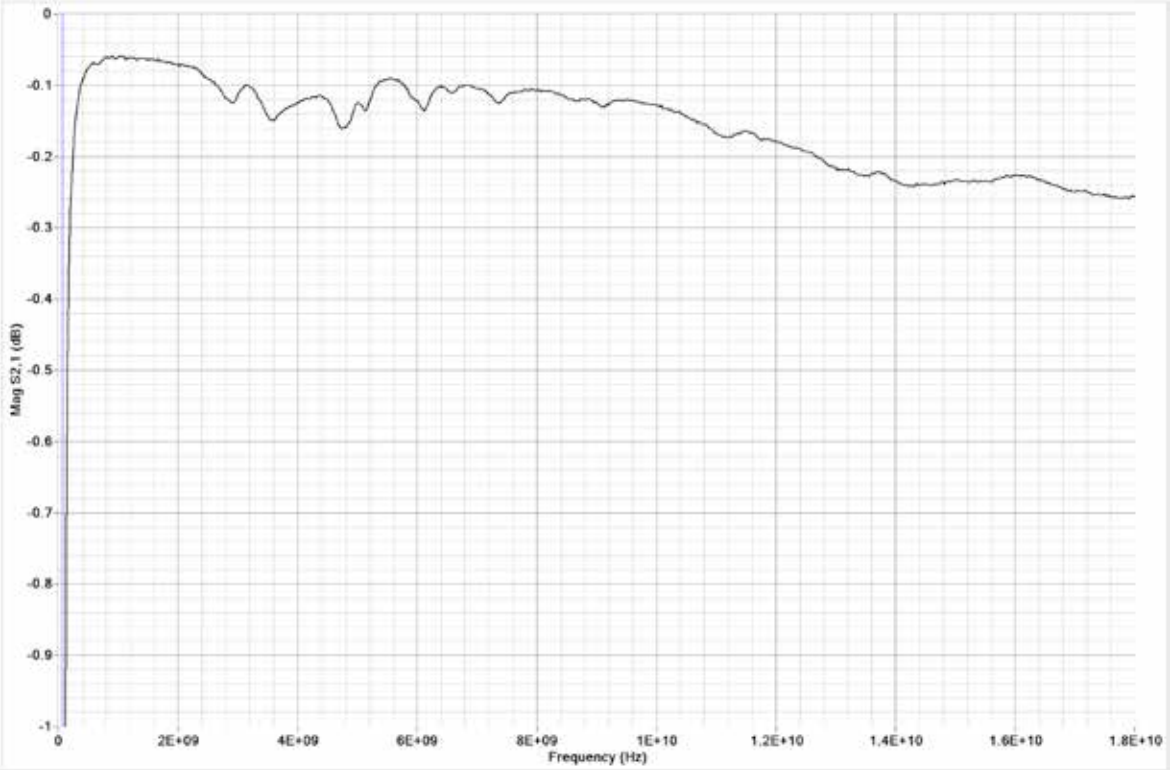
Important characteristics of a bias tee include the frequency range over which the bias tee will function with minimal to no performance degradation, the insertion loss and VSWR (or return loss) over the usable frequency range of the bias tee. Voltages, currents and RF powers are critical both in average/DC/CW and pulsed/peak operations. It is also essential to have bias tees with minimal overshoot of the signals under pulsed bias/pulsed RF conditions.

Specifications

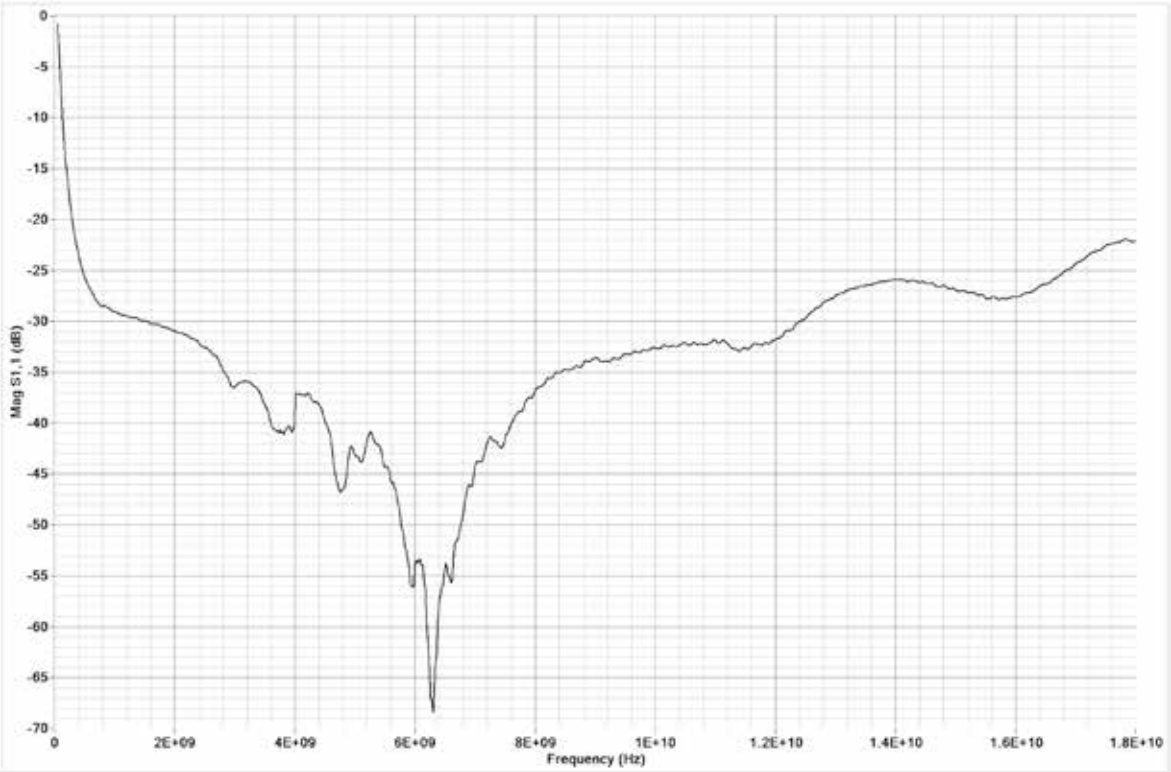
Model	Connector			Frequency Range (GHz)	Insertion Loss (dB)		Return Loss (dB) Typical	Max Voltage (V)	Max DC Current (mA)	RF Rating				Isolation (dB) Typical	DC Resistance (ohm) Typical	DC BW (MHz) Typical
	Input Port	Output Port	DC Port		Typ	Max				CW Current (mA)	CW Power (W)	Peak Current (mA) [1]	Peak Power (W) [1]			
MBT18-7-1000	7mm		SMA Female	0.35 - 18	0.28	0.6	22	100	1000	1000	10	2000	40	34	0.4	10

[1] Power and current rating valid under the following condition: Ton = 100us, Duty Cycle = 10%, Iq ≤ 500mA. Different pulse conditions will affect the peak power and current handling.

Typical Insertion Loss - dB

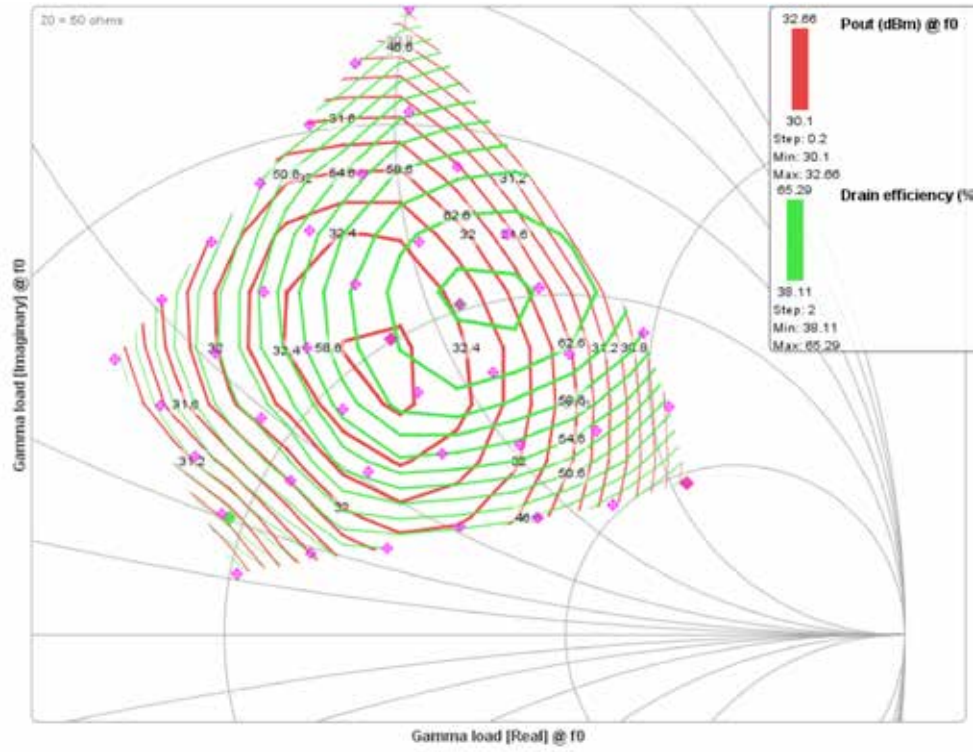


Typical Return Loss - dB



Typical Applications

Load pull



Pulsed IV down to 1us