

BT-0010SMG-2

Miniature Surface Mount Bias Tee

DEVICE OVERVIEW

General Description

The BT-0010SMG is a packaged bias tee featuring excellent insertion loss and superior isolations over a broad 20 MHz to 10 GHz bandwidth. Tight fabrication tolerances allow for low unit to unit variation enabling accurate simulations using the provided s3p file taken from measured production units. The bias tee is available in a compact package and is suitable for applications such as amplifier biasing, diode biasing and DC level shifting.



[Download s-parameters here](#)

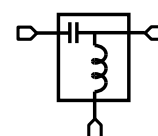
Features

- Frequency Range 20 MHz to 10 GHz
- Watt RF Power Handling
- Miniature Surface Mount Package
- Reflow Solderable

Applications

- Test and Measurement Equipment

Functional Block Diagram



Part Ordering Options

Part Number	Description	Package	Packing Size	Green Status	Product Lifecycle	Export Classification
BT-0010SMG-1	Miniature Surface Mount Bias Tee	SMG	-	RoHS REACH	Released	EAR99
BT-0010SMG-2	Miniature Surface Mount Bias Tee	SMG	-	RoHS REACH	Released	EAR99

Table Of Contents

■ Device Overview

General Description
Features
Applications
Functional Block Diagram

■ Port Configuration and Functions

Port Diagram
Port Functions

■ Revision History

■ Specifications

Absolute Maximum Ratings
Package Information
Electrical Specifications
Typical Performance Plots
Typical Performance vs Bias Current at Low frequencies

■ Mechanical Data

Outline Drawing

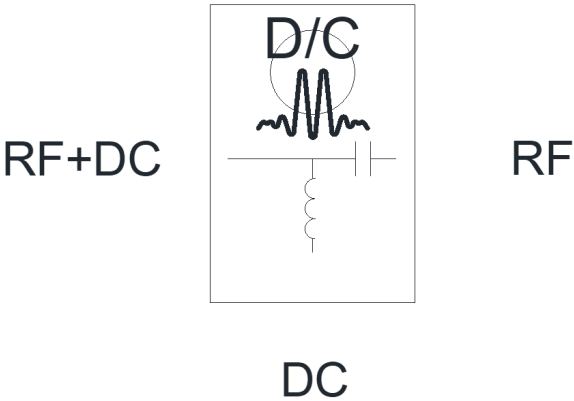
■ Footprint Image

Revision History

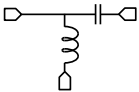
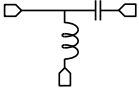
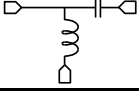
Revision Code	Revision Date	Comment
B	2020-10-01	Bias Current plots added

Port Configuration and Functions

Port Diagram



Port Functions

Port	Function	Description	Equivalent Circuit for Package
Common	RF+DC	This port is DC blocked to the RF port and DC connected to the DC port through an internal RF choke.	
DC	DC	This port is internally connected to an RF choke which is DC connected to the RF+DC port and DC blocked to the RF port.	
RF	RF	This port is internally DC blocked to the RF+DC and DC ports.	

Specifications

Absolute Maximum Ratings

Parameter	Maximum Rating	Unit
DC Current	0.5	A
DC Voltage	30	V
RF Power	1	W

Package Information

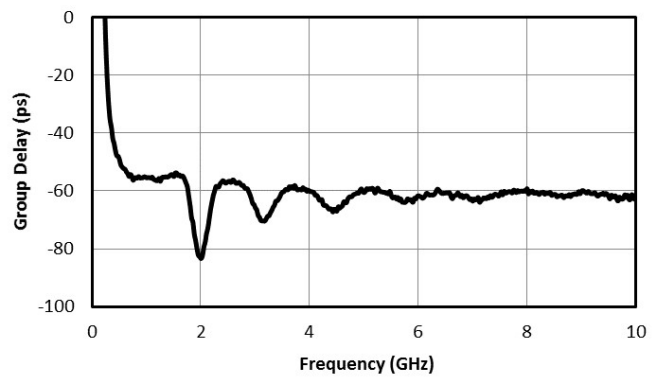
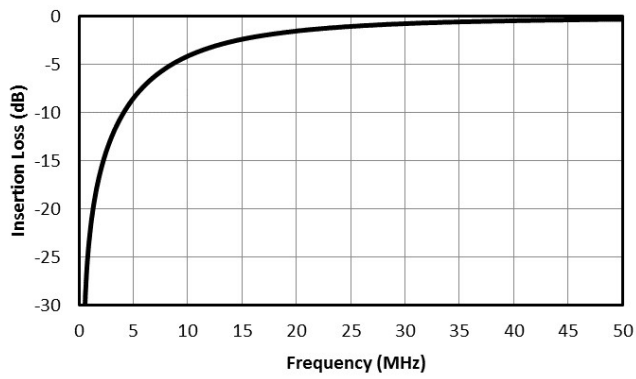
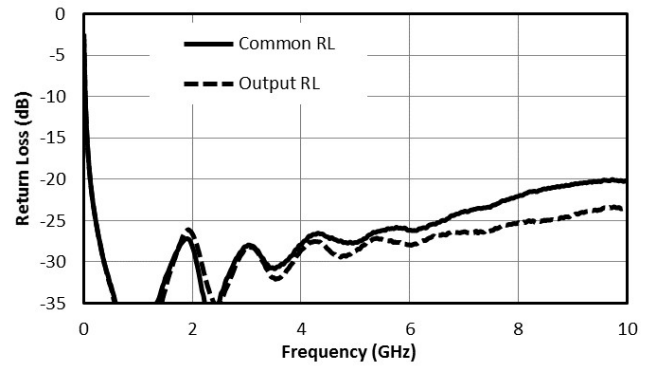
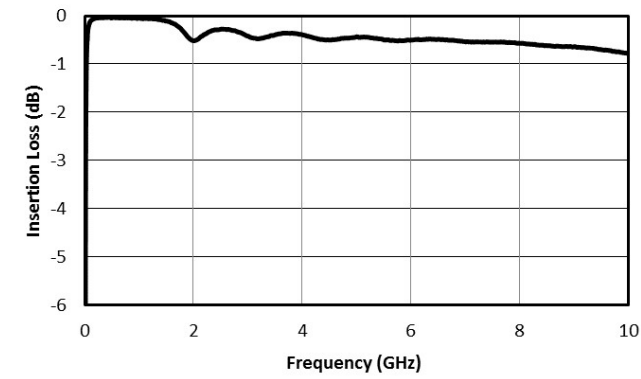
Parameter	Details	Rating
Dimensions	-	3.81 x 5.59 mm

Electrical Specifications

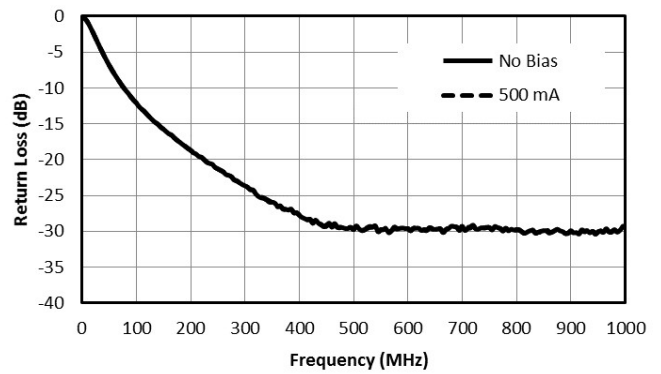
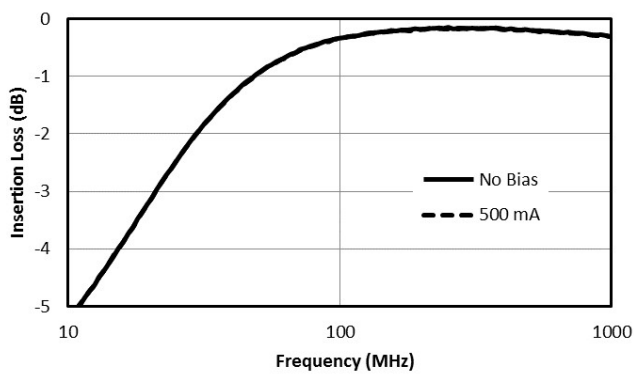
Specifications guaranteed from -55 to +100°C, measured in a 50-Ohm system.

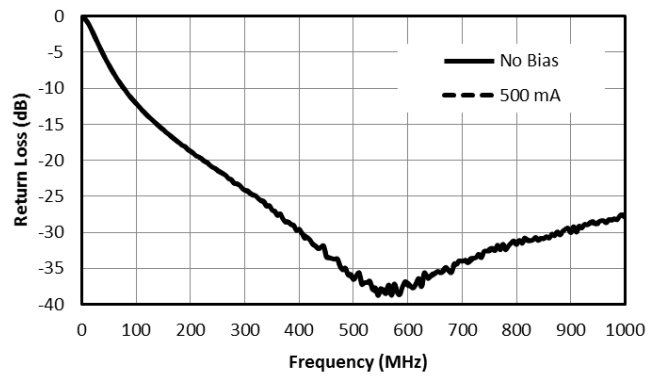
Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Capacitance	-	0.02	10	-	1	-	μF
DC Port Isolation	-	0.02	10	-	40	-	dB
DC Resistance	-	0.02	10	-	1	-	Ω
Inductance	-	0.02	10	-	320	-	nH
Insertion Loss	-	0.03	0.1	-	1	2.5	dB
Insertion Loss	-	0.02	0.03	-	2.5	-	dB
Insertion Loss	-	7	10	-	1	2	dB
Insertion Loss	-	3	7	-	0.8	1	dB
Insertion Loss	-	0.1	3	-	0.5	0.8	dB

Typical Performance Plots



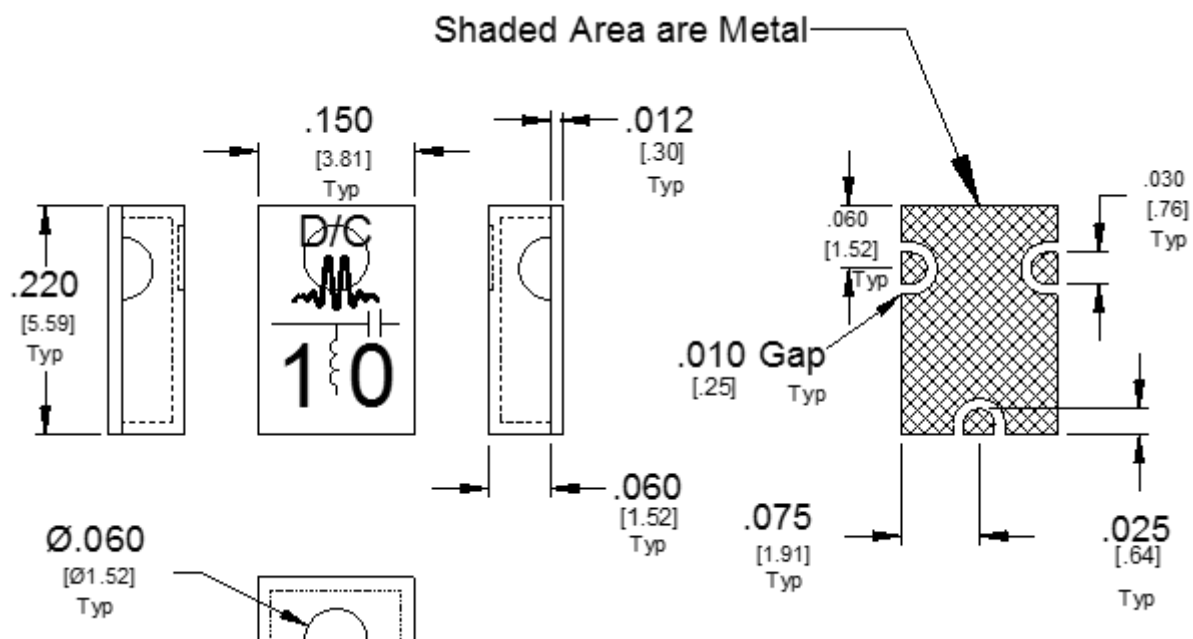
Typical Performance vs Bias Current at Low frequencies



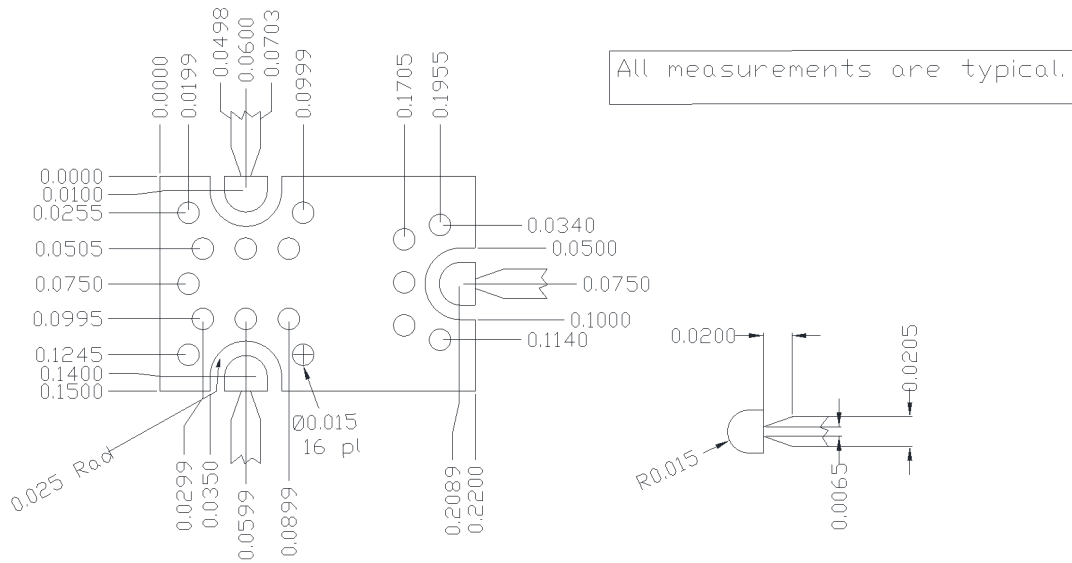


Mechanical Data

Outline Drawing



Footprint Image



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