

BTM-0026PSM-2

Miniature Surface Mount 0.01 - 26 GHz Bias-Tee

DEVICE OVERVIEW

General Description

The BTM-0026PSM-2 is a packaged miniature bias tee featuring excellent 0.4 dB insertion loss and superior 25 dB isolations over a broad 10 MHz to 26 GHz bandwidth. The BTM-0026PSM-2 works well for K-Band applications. The BTM-0026PSM-2 is available in a compact 2.25 x 3.7 mm surface mount package or as a connectorized evaluation board. Tight fabrication tolerances allow for low unit to unit variation enabling accurate simulations using the provided s3p file taken from measured production units, making it an excellent alternative to uncharacterized, untested bias tees built with off-the-shelf inductors and capacitors.



[Download s-parameters here](#)

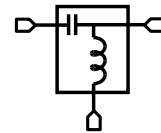
Features

- Low 0.4 dB Insertion Loss
- 16 V Voltage & 0.32 A Current Rating
- 1 W Power Handling
- Miniature Surface Mount Package
- Broad 10MHz to 26GHz Bandwidth

Applications

- Test and Measurement Equipment
- Aerospace and Defense
- SATCOM

Functional Block Diagram



Part Ordering Options

Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification
BTM-0026PSM-1	Miniature Surface Mount 0.01 - 26 GHz Bias-Tee	PSM	RoHS REACH	Released	EAR99
BTM-0026PSM-2	Miniature Surface Mount 0.01 - 26 GHz Bias-Tee	PSM	RoHS REACH	Released	EAR99
EVB-BTM-0026P	Evaluation Board, Miniature Surface Mount 0.01 - 26 GHz Bias-Tee	EVB	RoHS REACH	Released	EAR99

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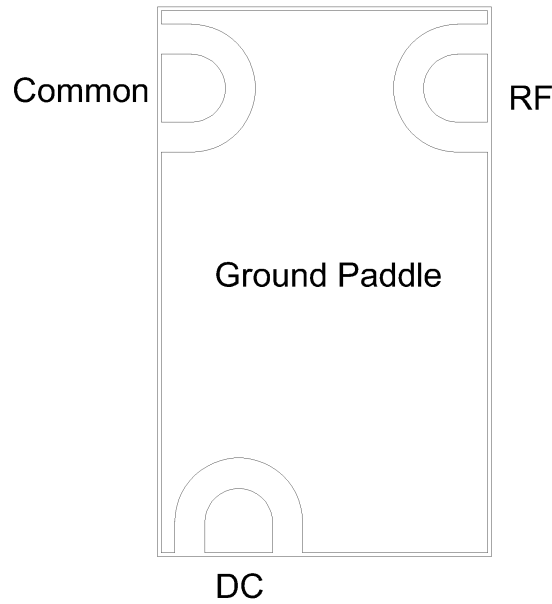
Revision History

Revision Code	Revision Date	Comment
-	2023-03-01	Datasheet Initial Release
A	2025-02-10	Updates as per ECN 25013

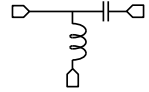
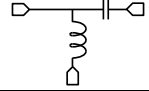
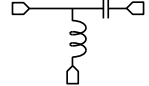
Port Configuration and Functions

Port Diagram

A top-down x-ray view of the BTM-0026PSM-2's PSM package outline drawing is shown below. The BTM-0026PSM-2 has input and output ports given in Port Functions below. To use, apply a DC voltage to the DC pin, and an RF signal to the RF pin.



Port Functions

Port	Function	Description	DC Equivalent Circuit
Common	RF+DC	The Common port is AC coupled to the RF pin and DC coupled to the DC pin.	
DC	DC	The DC port is DC blocked to the RF pin and DC coupled to the common port.	
RF	RF	The RF pin is AC coupled to the common pin and DC blocked to the DC pin.	

Specifications

Absolute Maximum Ratings

The Absolute Maximum Ratings indicate limits beyond which damage may occur to the device. If these limits are exceeded or met simultaneously, the device may be inoperable or have a reduced lifetime.

Parameter	Maximum Rating	Unit
Power Handling	30	dBm
DC Voltage	16	V
DC Current	0.32	A
Minimum Operating Temperature	-55	°C
Minimum Storage Temperature	-65	°C
Maximum Operating Temperature	100	°C
Maximum Storage Temperature	125	°C

Package Information

Parameter	Details	Rating
ESD	250 to < 500 Volts	HBM Class 1A
Weight	Package name: PSM	0.69g
Dimensions	-	2.25 x 3.70 mm
Moisture Sensitivity Level	-	MSL 1

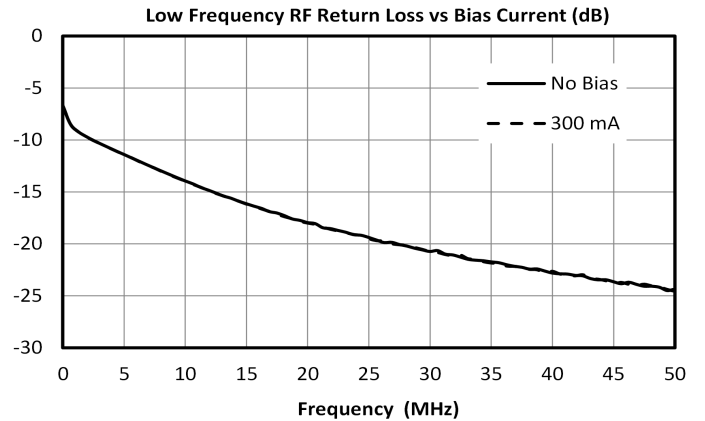
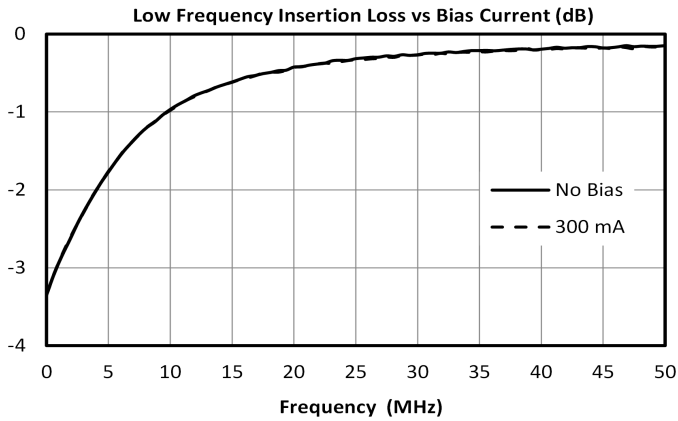
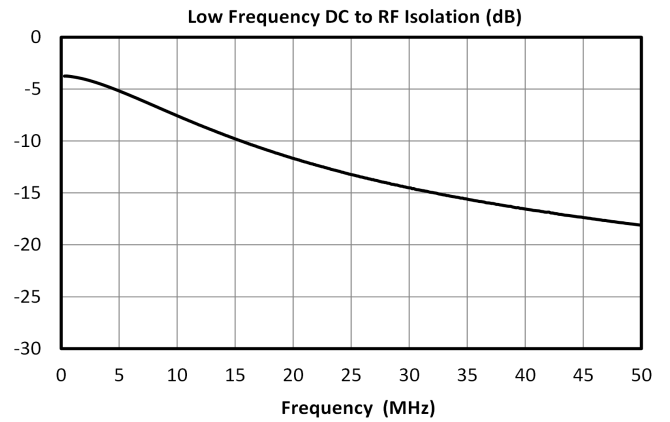
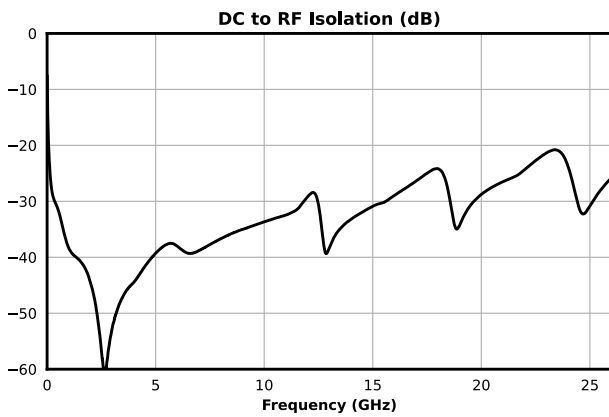
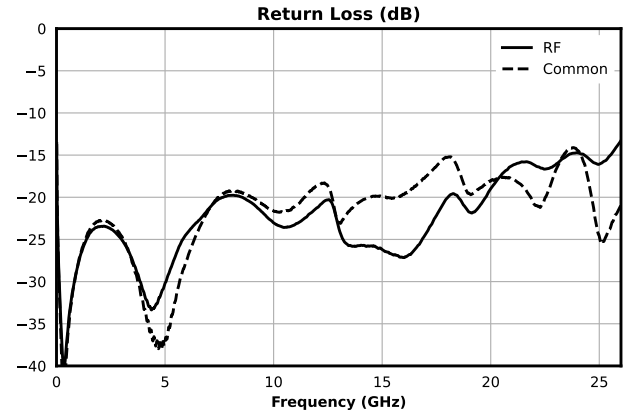
Electrical Specifications

Specifications guaranteed at +25C, measured in a 50-Ohm system

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Capacitance	-	0.01	26	-	0.1	-	μF
DC Port Isolation	-	0.01	26	-	25	-	dB
DC Resistance	-	0.01	26	-	1.5	-	Ω
Impedance	-	0.01	26	-	50	-	Ω
Inductance	-	0.01	26	-	1.1	-	μH
Insertion Loss	-	0.01	26	-	0.43	2.5	dB
Return Loss	-	0.01	26	-	20	-	dB

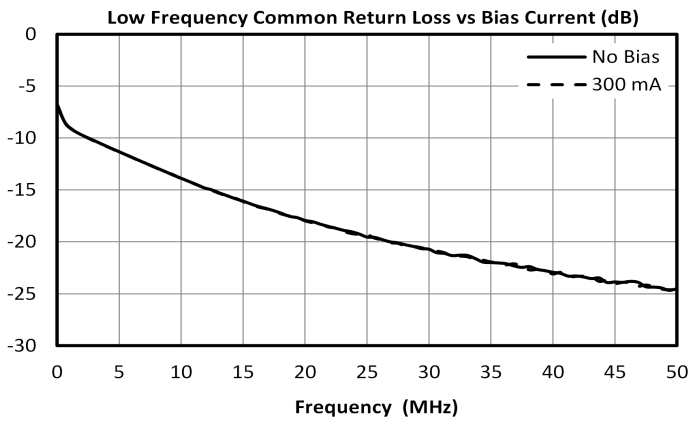
Typical Performance Plots

Typical performance plots are evaluation board measurements with fixturing to the device pads de-embedded except for low frequency plots.



BTM-0026PSM-2

Miniature Surface Mount 0.01 - 26 GHz Bias-Tee

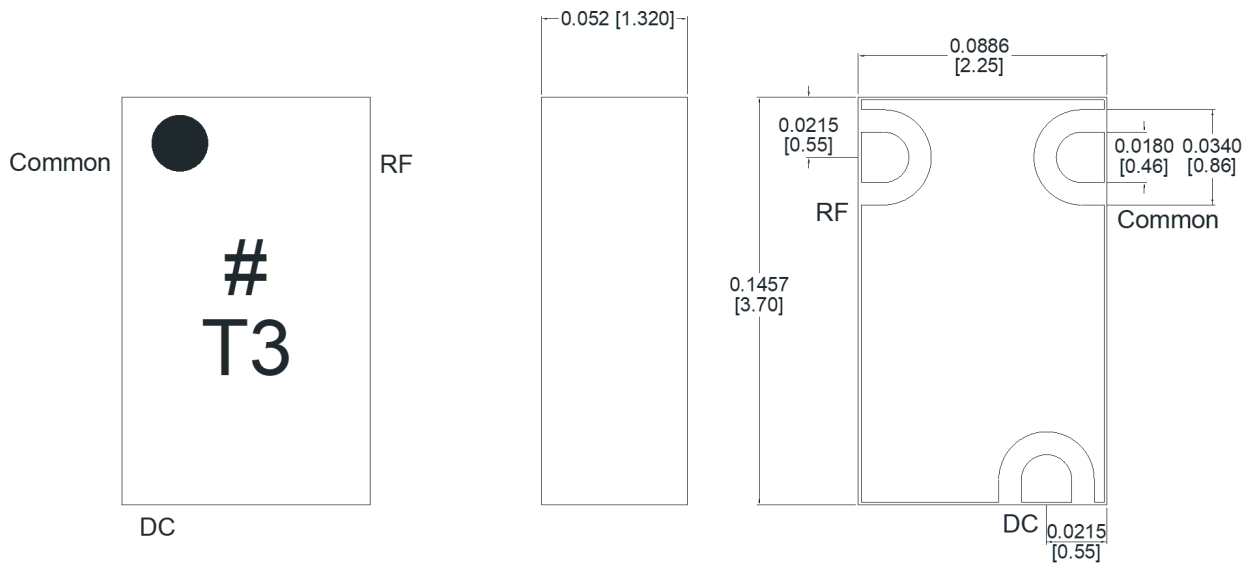
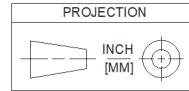


Mechanical Data

Outline Drawing

Download : [Outline 2D Drawing](#) | [Outline 3D Drawing](#) | [Outline 3D STP](#)

All measurement are typical



Notes: (Unless otherwise specified)

All dimensions are in INCHES [MM].

Finish: Gold 2-8μ-inches, over Solderable Electroplated Nickel, 100-200 μ-inches per QQ-N-290A. Or, ENIG.

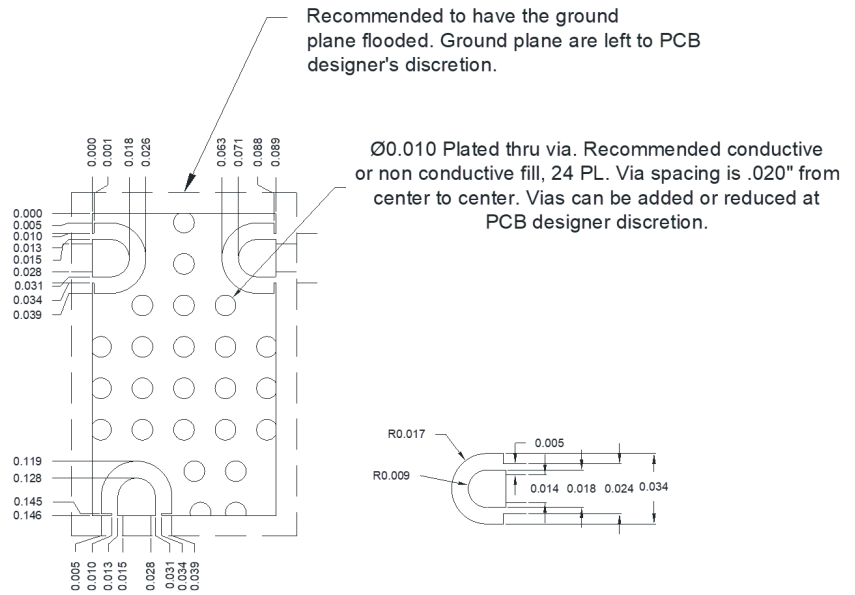
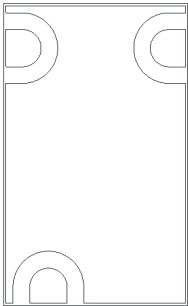
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Miniature Surface Mount 0.01 - 26 GHz Bias-Tee

Footprint Image

Download : [Footprint Drawing](#)

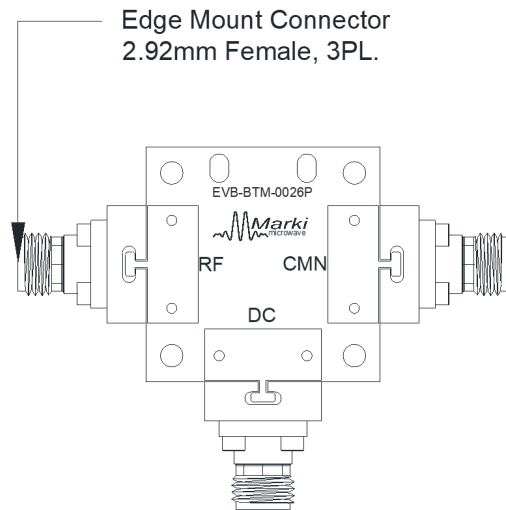
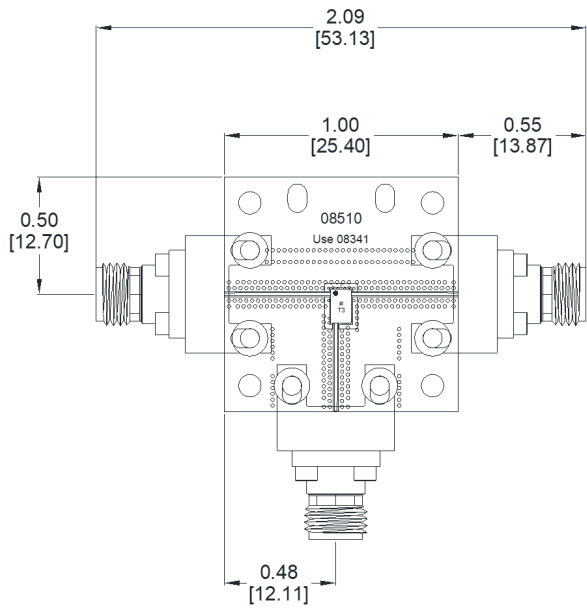
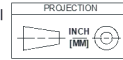
BTM-0026PSM Package
X-Ray View



The landing pattern is to be used on Rogers 4003, 0.008" thick, $\frac{1}{2}$ Oz Cu.

Evaluation Board - Outline Drawing

All measurements are typical



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