

BT-0026SMG-2

Miniature Surface Mount Bias Tee

DEVICE OVERVIEW

General Description

The BT-0026SMG is a packaged bias tee featuring excellent insertion loss and superior isolations over a broad 20 MHz to 26 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.



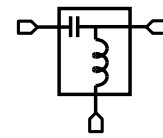
Features

- Frequency Range 20 MHz to 26 GHz
- 1 Watt RF Power Handling
- DC Current 500 mA
- Miniature Surface Mount Package
- Reflow Solderable

Applications

- Test and Measurement Equipment

Functional Block Diagram



Part Ordering Options

| Part Number | Description | Package | Green Status | Product Lifecycle | Export Classification |
|---------------------|----------------------------------|---------|---------------|-------------------|-----------------------|
| BT-0026SMG-2 | Miniature Surface Mount Bias Tee | SMG | RoHS REACH | Released | EAR99 |
| <u>BT-0026SMG-1</u> | Miniature Surface Mount Bias Tee | SMG | RoHS REACH | Released | EAR99 |

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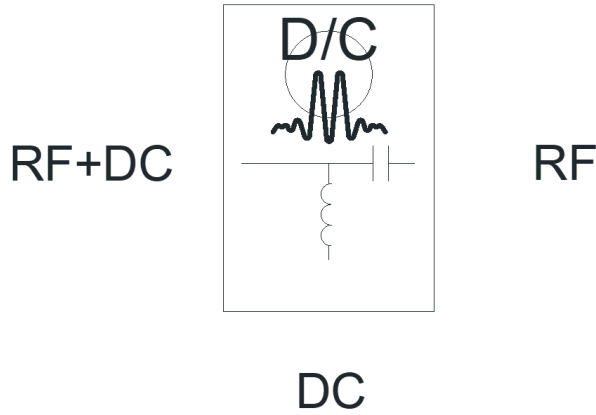
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Revision History

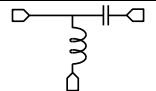
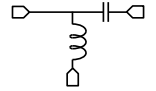
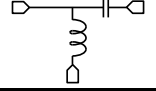
| Revision Code | Revision Date | Comment |
|---------------|---------------|----------------------------|
| A | 2021-04-01 | DC-RF isolation plot added |

Port Configuration and Functions

Port Diagram



Port Functions

| Port | Function | Description | DC Equivalent Circuit |
|--------|----------|---|---|
| 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 | 35 | V |
| Maximum Storage Temperature | 125 | °C |
| Minimum Storage Temperature | -65 | °C |
| RF Power Handling | 1 | W |
| Minimum Operating Temperature | -55 | °C |
| Maximum Operating Temperature | 100 | °C |

Package Information

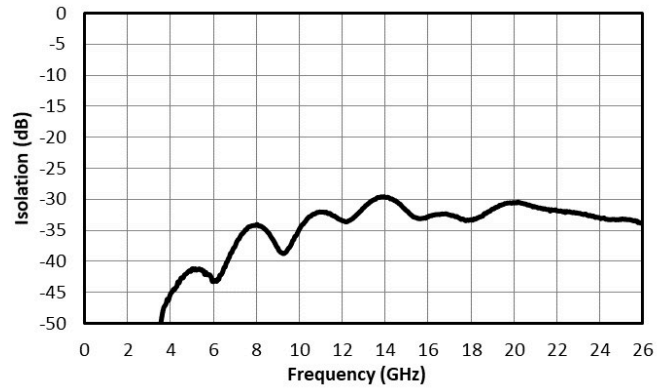
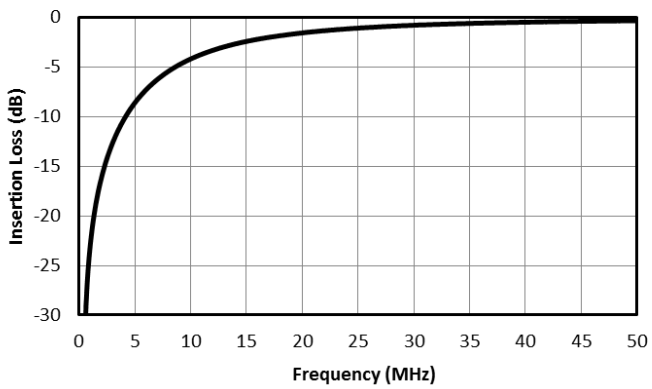
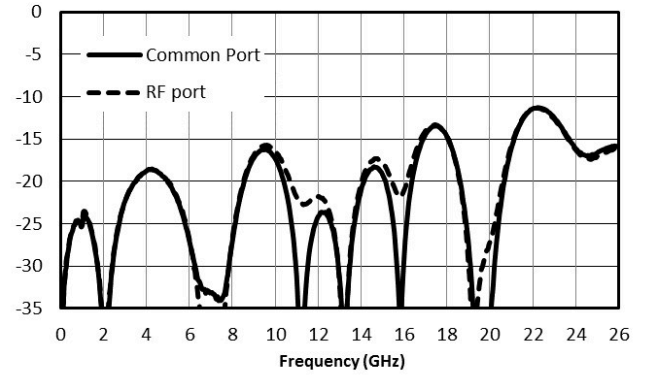
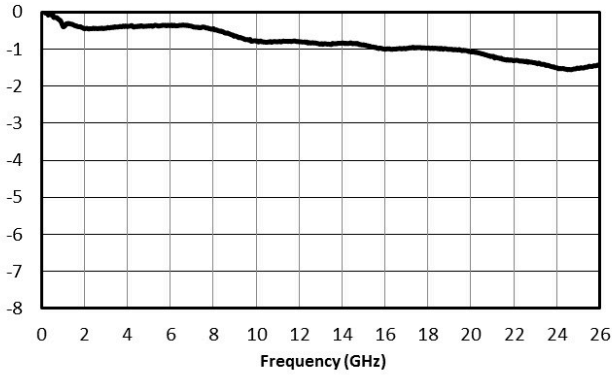
| Parameter | Details | Rating |
|----------------------------|---------|----------------|
| Dimensions | - | 3.81 x 5.59 mm |
| Moisture Sensitivity Level | - | MSL 1 |

Electrical Specifications

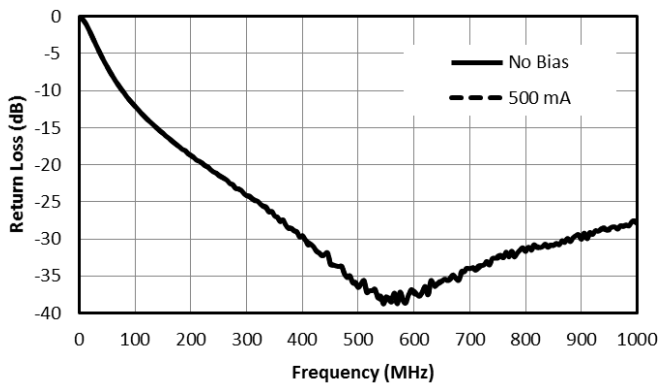
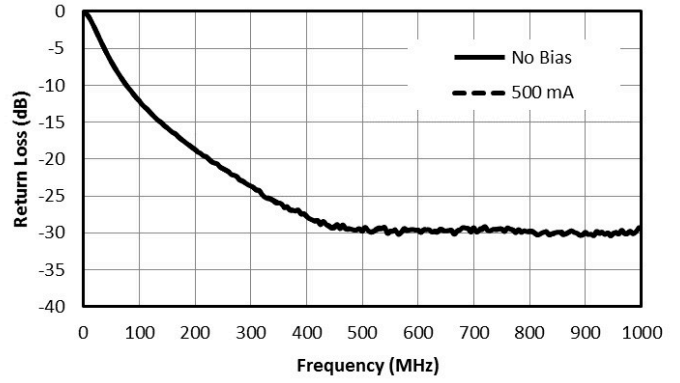
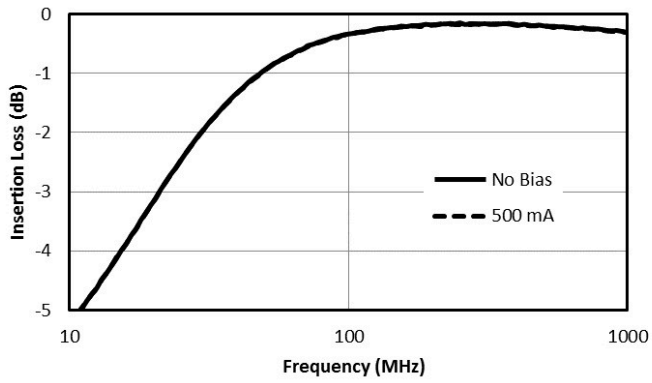
Specifications guaranteed at +25C, measured in a 50-Ohm system

| Parameter | Test Conditions | Minimum Frequency (GHz) | Maximum Frequency (GHz) | Min | Typ | Max | Unit |
|-------------------|-----------------|-------------------------|-------------------------|-----|-----|-----|------|
| Capacitance | - | 0.02 | 26 | - | 1 | - | μF |
| DC Port Isolation | - | 0.02 | 26 | - | 40 | - | dB |
| DC Resistance | - | 0.02 | 26 | - | 1 | - | Ω |
| Inductance | - | 0.02 | 26 | - | 320 | - | nH |
| Insertion Loss | - | 20 | 26 | - | 1.5 | 2.5 | dB |
| Insertion Loss | - | 0.02 | 0.03 | - | 2.5 | - | dB |
| Insertion Loss | - | 0.001 | 20 | - | 1 | 2 | dB |
| Insertion Loss | - | 0.03 | 0.1 | - | 1 | 2.5 | dB |

Typical Performance Plots



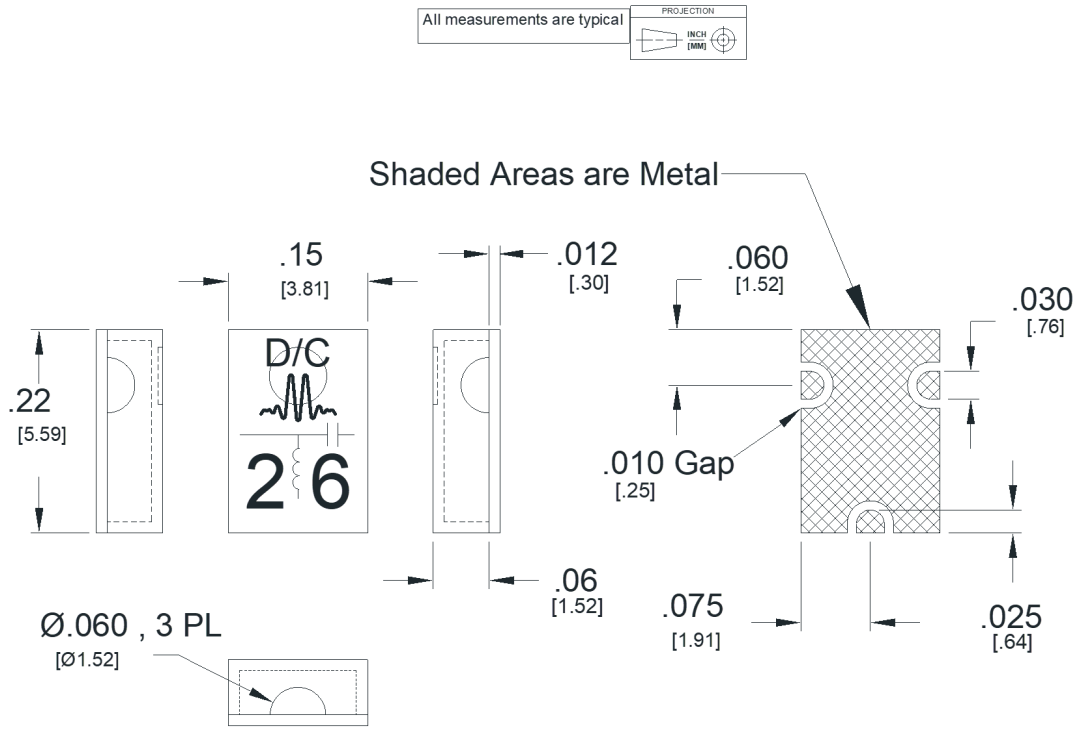
Typical Performance vs Bias Current at Low frequencies



Mechanical Data

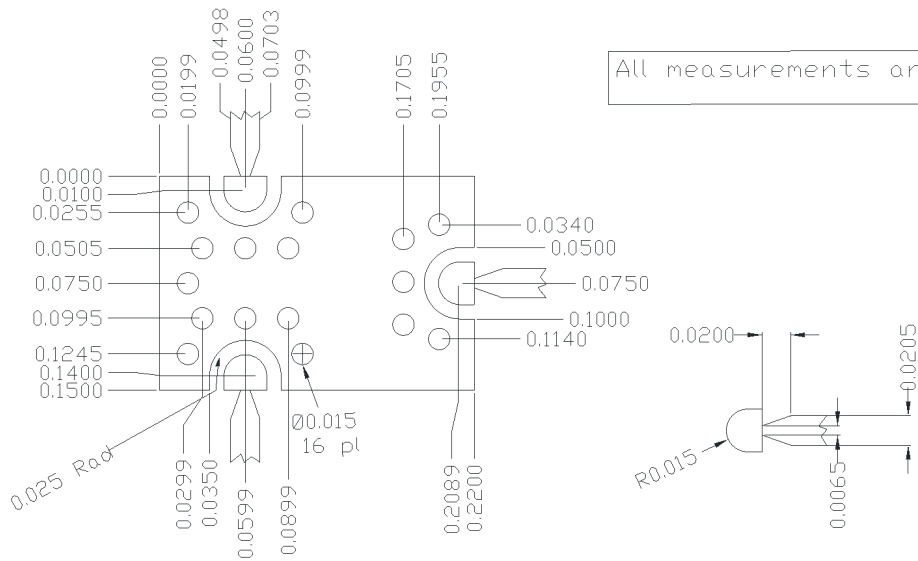
Outline Drawing

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



Footprint Image

Download : [Footprint Drawing](#)



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