

BT-0034SMG-2

Miniature Surface-Mount 0.0005 - 34 GHz Bias-Tee

DEVICE OVERVIEW

General Description

The BT-0034SMG is a packaged bias tee featuring excellent insertion loss and superior isolations over a broad 500 kHz to 34 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.



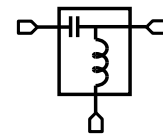
Features

- Frequency Range: 500 kHz to 34 GHz
- Frequency Range with External Coil: 5 kHz to 34 GHz
- 1 Watt RF Power Handling
- Miniature Surface Mount Package
- Lead Free Assembly
- Reflow Solderable

Applications

- Test and Measurement Equipment

Functional Block Diagram



Part Ordering Options

| Part Number | Description | Package | Green Status | Product Lifecycle | Export Classification |
|------------------------------|--|---------|--------------|-------------------|-----------------------|
| BT-0034SMG-1 | Miniature Surface-Mount 0.0005 - 34 GHz Bias-Tee | SMG | RoHS REACH | Obsolete | EAR99 |
| BT-0034SMG-2 | Miniature Surface-Mount 0.0005 - 34 GHz Bias-Tee | SMG | RoHS REACH | Obsolete | EAR99 |

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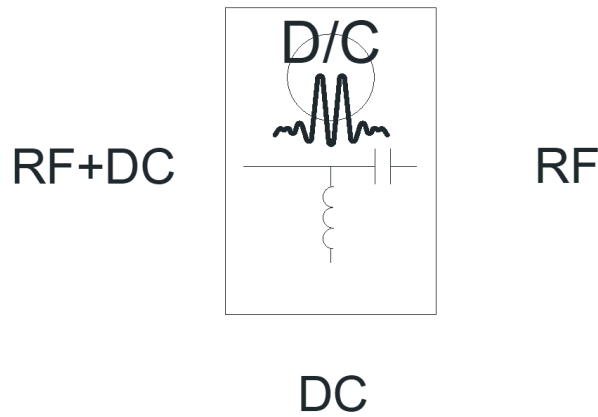
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Revision History

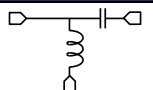
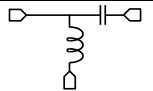
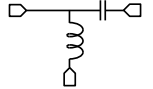
| Revision Code | Revision Date | Comment |
|---------------|---------------|--------------------------|
| D | 2020-10-01 | Bias Current plots added |
| E | 2021-10-01 | EOL |

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. |  |

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Specifications

Absolute Maximum Ratings

| Parameter | Maximum Rating | Unit |
|-----------------------------|----------------|------|
| DC Current | 0.5 | A |
| DC Voltage | 30 | V |
| Maximum Storage Temperature | 125 | °C |
| Minimum Storage Temperature | -65 | °C |
| RF Power Handling | 1 | W |

Package Information

| Parameter | Details | Rating |
|----------------------------|---------|----------------|
| Dimensions | - | 3.81 x 6.10 mm |
| Moisture Sensitivity Level | - | MSL 3 |

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Electrical Specifications

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

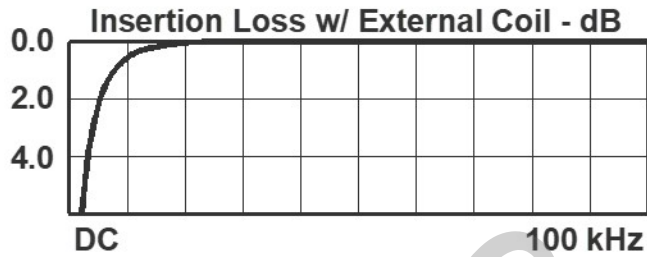
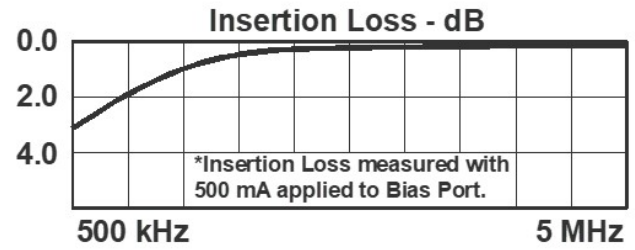
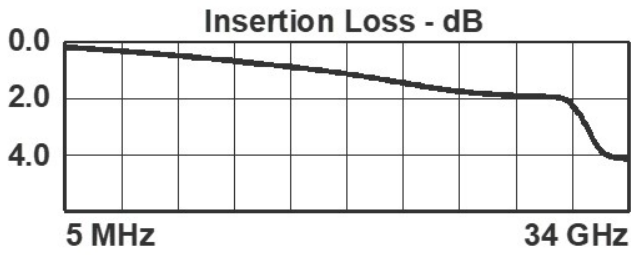
| Parameter | Test Conditions | Minimum Frequency (GHz) | Maximum Frequency (GHz) | Min | Typ | Max | Unit |
|-------------------|-----------------|-------------------------|-------------------------|-----|-----|-----|----------|
| DC Port Isolation | - | 0.0005 | 34 | - | 40 | - | dB |
| DC Resistance | - | 0.0005 | 34 | - | 1.5 | - | Ω |
| Insertion Loss | - | 0.005 | 30 | - | 1 | 2.5 | dB |
| Insertion Loss | - | 30 | 34 | - | 3 | - | dB |
| Insertion Loss | - | 0.0005 | 0.005 | - | 1 | 6 | dB |

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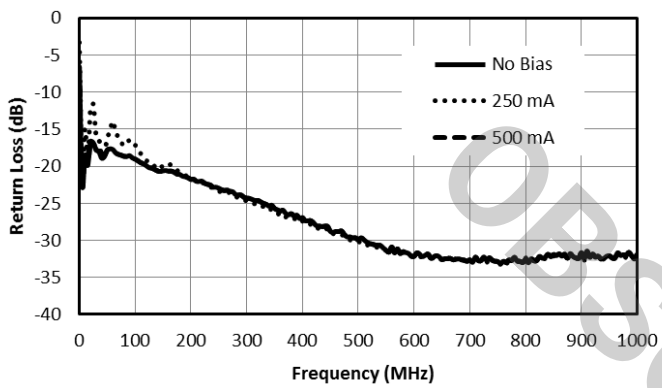
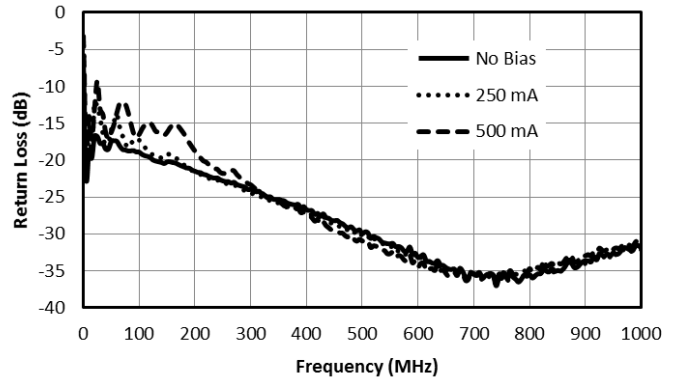
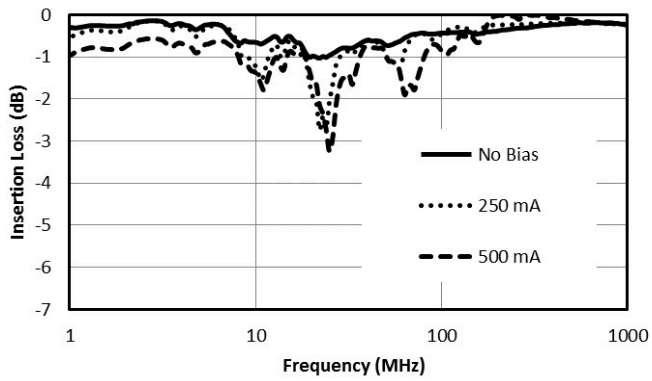
Miniature Surface-Mount 0.0005 - 34 GHz Bias-Tee

Typical Performance Plots



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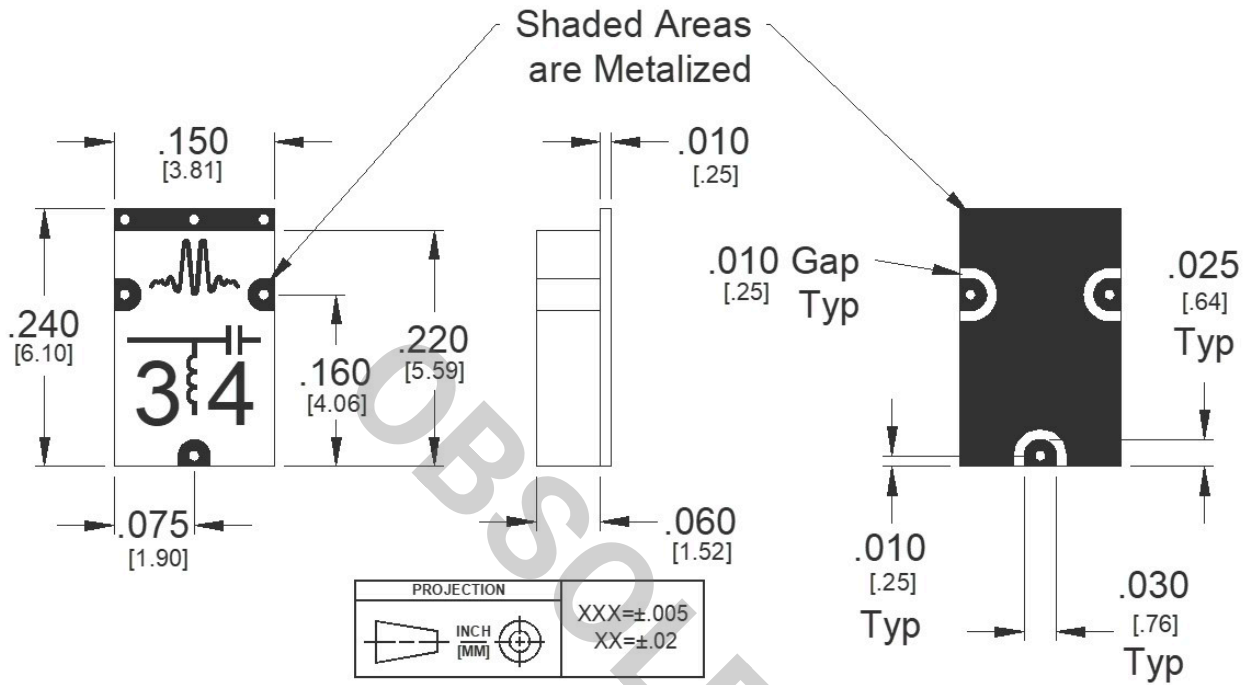
Typical Performance vs Bias Current at Low frequencies



Mechanical Data

Outline Drawing

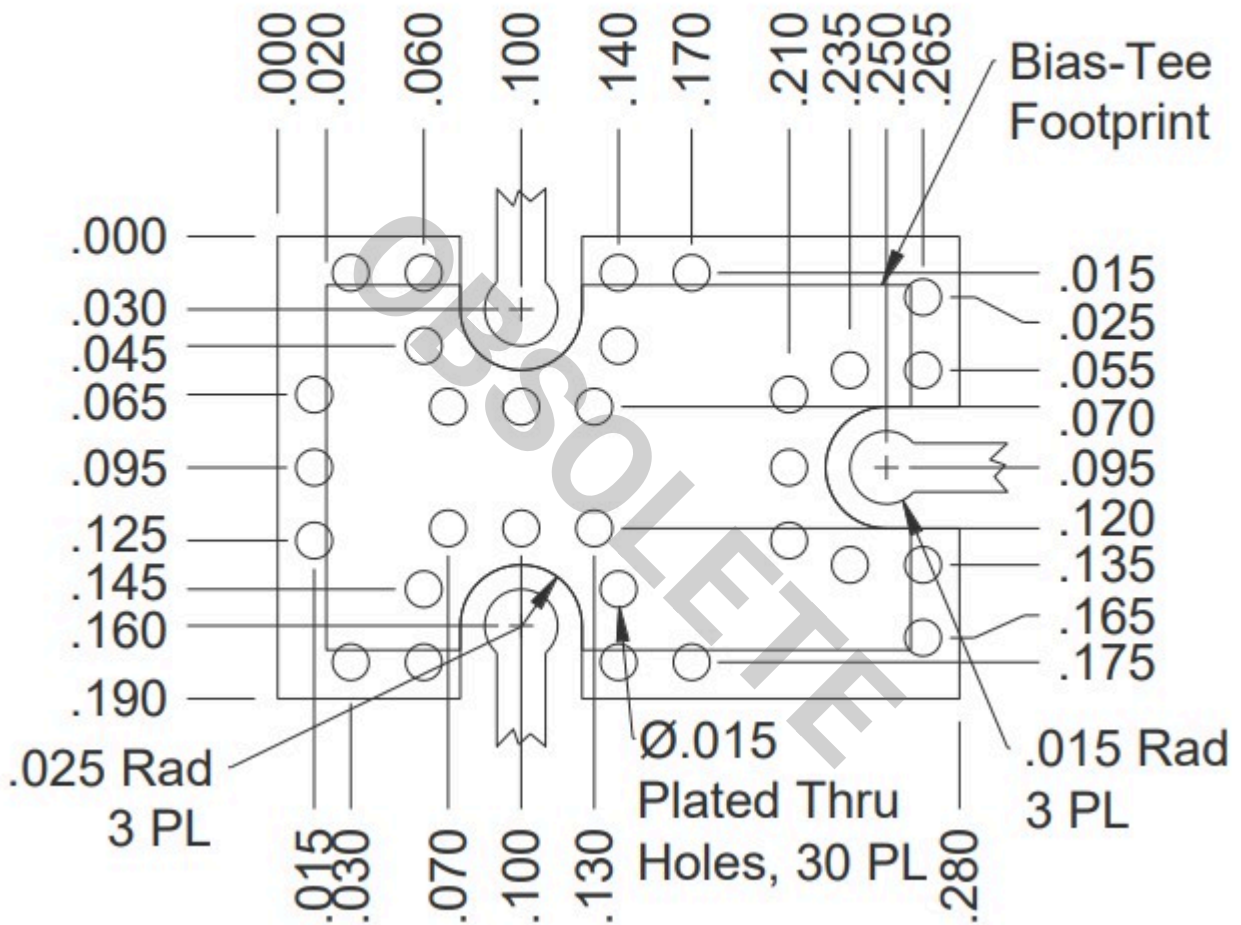
Download : [Outline 3D Drawing](#) | [Outline 3D STP](#)



Footprint Image

Download: [Footprint Drawing](#)

BTSM/PDSM Surface-Mount System Circuit Footprint



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