

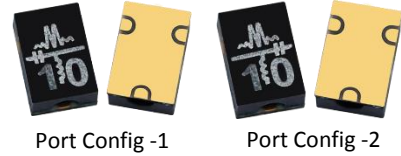
## LEAD-FREE / RoHS-COMPLIANT

### MINIATURE SURFACE MOUNT BIAS TEE

### BT-0010SMG

#### Features

- Frequency Range 20 MHz to 10 GHz
- 1 Watt RF Power Handling
- Miniature Surface Mount Package
- [Reflow Solderable](#)



Port Config -1

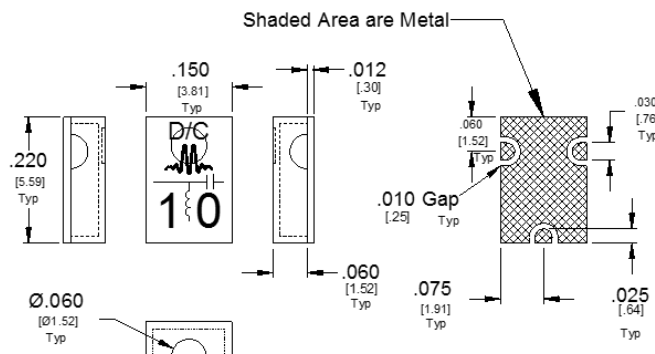
Port Config -2

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

| Parameter              | Frequency Range   | Min | Typ | Max |
|------------------------|-------------------|-----|-----|-----|
| Insertion Loss (dB)    | 20 MHz to 30 MHz  |     | 2.5 |     |
|                        | 30 MHz to 100 MHz |     | 1   | 2.5 |
|                        | 100 MHz to 3 GHz  |     | 0.5 | 0.8 |
|                        | 3 GHz to 7 GHz    |     | 0.8 | 1   |
|                        | 7 GHz to 10 GHz   |     | 1   | 2   |
| DC Current (mA)        | 20 MHz to 10 GHz  |     |     | 500 |
| DC Resistance (Ohms)   |                   |     | <1  |     |
| Capacitance (uF)       |                   |     | 1   |     |
| Inductance (nH)        |                   |     | 320 |     |
| DC Port Isolation (dB) |                   |     | 40  |     |
| DC Voltage Maximum (V) |                   |     |     | 30  |
| RF Power Maximum (W)   |                   |     |     | 1   |

| Model Number <sup>1</sup>    | Description  |
|------------------------------|--|
| BT-0010SMG-1<br>BT-0010SMG-2 | 20 MHz - 10 GHz Bias Tee, Surface Mount, <b>LEAD-FREE/RoHS COMPLIANT</b> |

<sup>1</sup>Default is -2 when not specified.  
Connectorized test fixtures available. Consult factory.



Substrate material is 12-mil thick Rogers 4003, ½ Oz Electrodeposited Cu both sides.  
I/O Pads & Ground Plane Finish is 100-200 μ-inches per QQ-N-290A, Enig  
[Click here for suggested PCB layout.](#)

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## Typical Performance

Insertion Loss data was taken with de-embedding of connectors and traces. Return loss and group delay data include fixture effects.

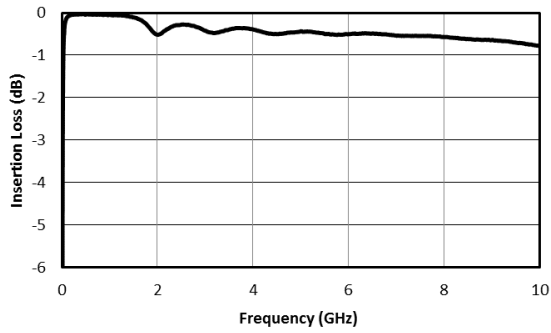


Fig. 1. RF insertion loss.

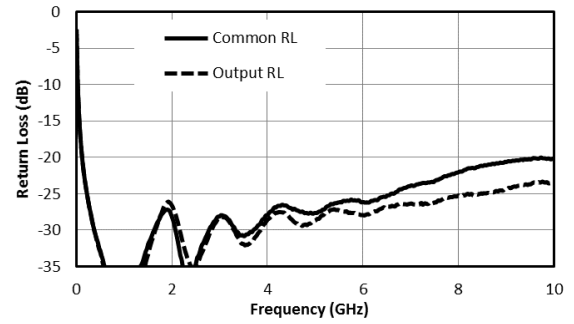


Fig. 2. Return loss.

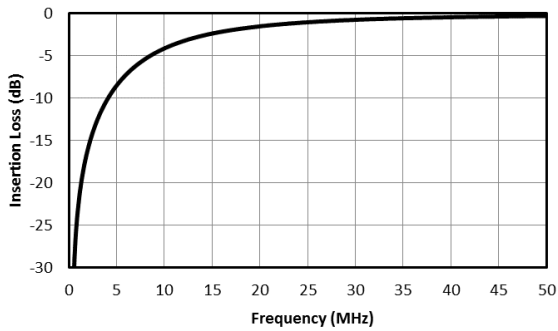


Fig. 3. Low frequency RF response.

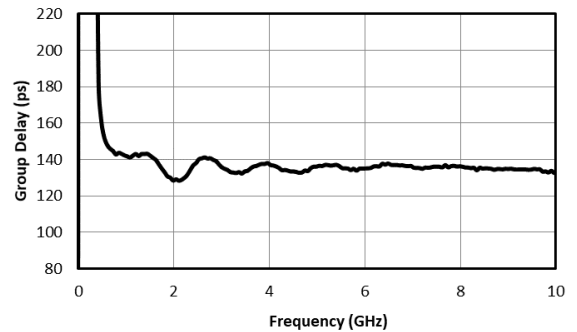


Fig. 4. Group delay.

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## Typical Performance vs Bias Current at Low frequencies

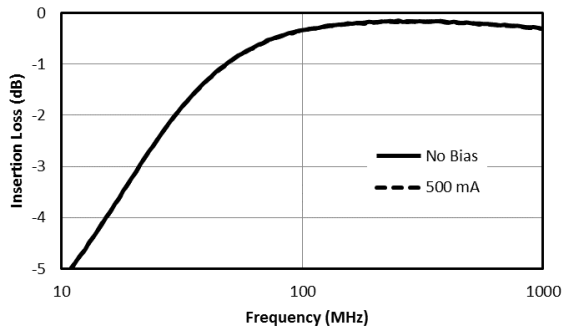


Fig. 5. Insertion Loss vs Bias Current.

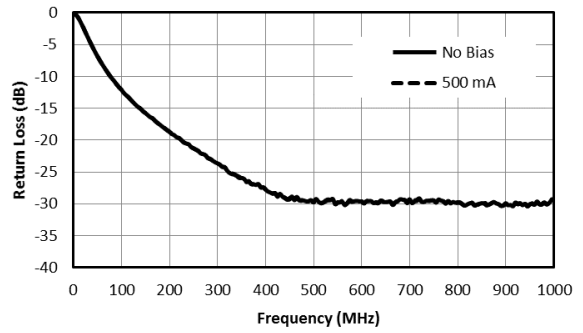


Fig. 6. Common Return Loss vs Bias Current.

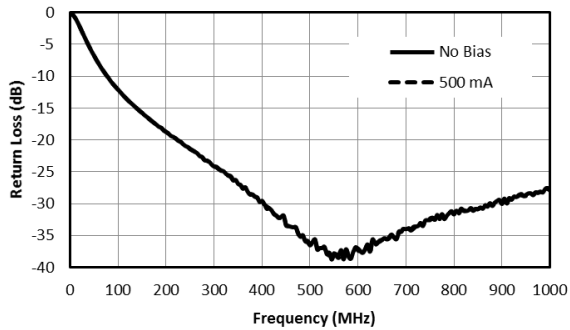


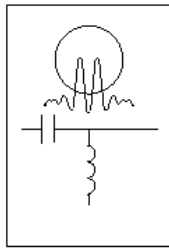
Fig. 7. RF Return Loss vs Bias Current.

**MINIATURE SURFACE MOUNT BIAS TEE**

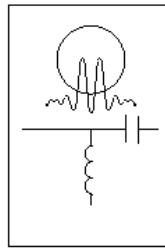
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**Port Configuration Option**



BT-0010SMG-1



BT-0010SMG-2

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**Revision History**

| Revision code | Revision Date | Comment                    |
|---------------|---------------|----------------------------|
| C             | 03/21         | Group Delay plot corrected |

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