

Coaxial Bias-Tee

50Ω Wideband 0.1 to 6000 MHz

Maximum Ratings

| | |
|---|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 30 dBm max. |
| Voltage at DC port | 30 V max. |
| Input Current | 500 mA |
| DC resistance from DC to RF&DC port | 4.5 ohm typ. |
| Permanent damage may occur if any of these limits are exceeded. | |

Coaxial Connections

| | |
|-------|----------------|
| RF | 1 (SMA female) |
| RF&DC | 2 (SMA male) |
| DC | 3 (SMA female) |

Features

- wideband, 0.1 to 6000 MHz
- low insertion loss, 0.6 dB typ.
- good isolation, 40 dB typ.

Applications

- biasing amplifiers
- biasing of laser diodes
- biasing of active antennas
- DC return
- DC blocking
- test accessory

ZFBT-6GW+



CASE STYLE: K18

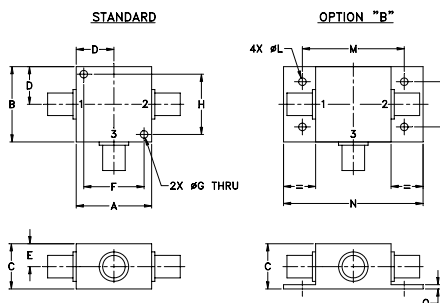
Connectors Model

SMA ZFBT-6GW+
BRACKET (OPTION "B")

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Outline Drawing



Outline Dimensions (inch mm)

| A | B | C | D | E | F | G | H |
|-------|-------|-------|-------|-------|-------|------|-------|
| 1.25 | 1.25 | .75 | .63 | .38 | 1.00 | .125 | 1.000 |
| 31.75 | 31.75 | 19.05 | 16.00 | 9.65 | 25.40 | 3.18 | 25.40 |
| J | K | L | M | N | P | Q | wt |
| -- | -- | .125 | 1.688 | 2.18 | .75 | .07 | grams |
| -- | -- | 3.18 | 42.88 | 55.37 | 19.05 | 1.78 | 70.0 |

Bias-Tee Electrical Specifications

| FREQUENCY (MHz) | | INSERTION LOSS* (dB) | | | | | | ISOLATION* (dB) (RF port to DC port) (RF&DC port to DC port) | | | | | | VSWR** (:1) | | | | | |
|-------------------------------|------|----------------------|-----|-----------|-----|-----------|-----|--|----|-----------|----|-----------|----|-------------|-----|-----------|-----|-----------|-----|
| f _L f _U | | L | | M | | U | | L | | M | | U | | L | | M | | U | |
| Typ. Max. | | Typ. Max. | | Typ. Max. | | Typ. Min. | | Typ. Min. | | Typ. Min. | | Typ. Min. | | Typ. Max. | | Typ. Max. | | Typ. Max. | |
| 0.1 | 6000 | 0.15 | 0.8 | 0.6 | 1.4 | 1.0 | 2.2 | 25 | 15 | 40 | 20 | 30 | 17 | 1.06 | 1.6 | 1.13 | 1.3 | 1.13 | 1.5 |

L= low range (f_L to 10 f_L)

M= mid range (10 f_L to f_U/2)

U= upper range (f_U/2 to f_U)

* Insertion Loss 1 dB Max. and isolation 7dB Min. 0.1 to 0.3 MHz.

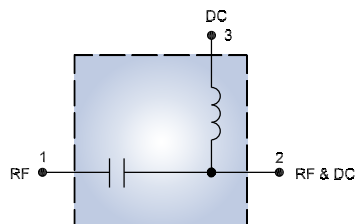
Insertion Loss and Isolation are guaranteed up to 20 dBm-RF power and 200mA DC current.

**VSWR measured with open and short at DC port.

Typical Performance Data

| Freq. (MHz) | Pin (dBm) | INSERTION LOSS (dB) with Current | | | | | | ISOLATION (dB) (Pin= -10dBm) with current | | | | | | VSWR (:1) |
|-------------|-----------|----------------------------------|------|------|-------|-------|-------|---|-------|-------|-------|-------|-------|-----------|
| | | 0mA | 20mA | 50mA | 100mA | 150mA | 200mA | 10mA | 20mA | 50mA | 100mA | 150mA | 200mA | |
| 0.10 | 19.80 | 0.17 | 0.17 | 0.16 | 0.17 | 0.20 | 0.24 | 19.46 | 19.04 | 17.83 | 14.58 | 12.66 | 11.75 | 1.16 |
| 0.27 | 19.80 | 0.13 | 0.13 | 0.13 | 0.14 | 0.14 | 0.15 | 25.86 | 25.53 | 24.52 | 21.43 | 19.31 | 18.16 | 1.07 |
| 0.53 | 19.80 | 0.12 | 0.12 | 0.12 | 0.11 | 0.11 | 0.11 | 29.17 | 28.98 | 28.36 | 26.18 | 24.40 | 23.37 | 1.04 |
| 1.06 | 19.80 | 0.13 | 0.13 | 0.12 | 0.11 | 0.12 | 0.12 | 30.81 | 30.74 | 30.56 | 29.62 | 28.62 | 27.92 | 1.02 |
| 10.00 | 18.50 | 0.16 | 0.17 | 0.17 | 0.16 | 0.16 | 0.16 | 30.06 | 30.07 | 30.07 | 30.20 | 30.38 | 30.56 | 1.04 |
| 114.75 | 19.50 | 0.22 | 0.25 | 0.24 | 0.22 | 0.22 | 0.22 | 34.45 | 34.49 | 34.27 | 33.99 | 33.83 | 33.59 | 1.07 |
| 324.25 | 19.70 | 0.50 | 0.55 | 0.53 | 0.52 | 0.53 | 0.56 | 44.65 | 44.61 | 44.25 | 43.90 | 43.91 | 43.34 | 1.06 |
| 743.25 | 18.70 | 0.28 | 0.31 | 0.30 | 0.29 | 0.29 | 0.29 | 51.19 | 50.50 | 50.16 | 50.65 | 51.69 | 52.47 | 1.06 |
| 952.75 | 18.20 | 0.31 | 0.33 | 0.33 | 0.31 | 0.32 | 0.33 | 40.75 | 40.80 | 40.97 | 40.97 | 40.93 | 40.95 | 1.11 |
| 1581.25 | 18.00 | 0.46 | 0.48 | 0.47 | 0.46 | 0.48 | 0.49 | 42.58 | 42.59 | 43.94 | 43.77 | 44.36 | 44.17 | 1.13 |
| 2000.25 | 17.10 | 0.46 | 0.48 | 0.47 | 0.46 | 0.46 | 0.47 | 45.46 | 45.57 | 45.73 | 45.48 | 46.14 | 45.28 | 1.12 |
| 2524.00 | 14.40 | 0.40 | 0.42 | 0.41 | 0.42 | 0.43 | 0.44 | 53.15 | 53.72 | 52.19 | 53.17 | 52.67 | 53.67 | 1.12 |
| 3047.75 | 14.20 | 0.45 | 0.48 | 0.47 | 0.46 | 0.46 | 0.49 | 52.46 | 52.25 | 51.55 | 51.33 | 51.46 | 50.99 | 1.09 |
| 3676.25 | 15.10 | 0.73 | 0.74 | 0.75 | 0.75 | 0.75 | 0.75 | 46.32 | 47.19 | 46.36 | 45.53 | 46.19 | 45.65 | 1.07 |
| 4200.00 | 17.90 | 1.04 | 1.07 | 1.07 | 1.06 | 1.05 | 1.06 | 28.42 | 28.36 | 28.24 | 28.14 | 28.01 | 27.92 | 1.09 |
| 4502.50 | -0.60 | 1.17 | 1.19 | 1.18 | 1.19 | 1.17 | 1.16 | 28.15 | 28.10 | 28.05 | 27.96 | 27.84 | 27.87 | 1.14 |
| 4802.00 | -0.70 | 1.26 | 1.26 | 1.27 | 1.25 | 1.22 | 1.20 | 37.95 | 38.01 | 38.19 | 37.93 | 37.58 | 37.51 | 1.12 |
| 5251.75 | -1.10 | 1.19 | 1.17 | 1.16 | 1.13 | 1.11 | 1.09 | 49.68 | 51.04 | 49.12 | 49.37 | 49.13 | 48.19 | 1.11 |
| 5550.75 | -2.00 | 1.65 | 1.63 | 1.60 | 1.56 | 1.54 | 1.51 | 38.44 | 38.56 | 38.36 | 38.07 | 37.85 | 38.19 | 1.10 |
| 6000.00 | -2.40 | 1.70 | 1.71 | 1.65 | 1.59 | 1.54 | 1.50 | 34.37 | 34.36 | 34.23 | 34.40 | 34.49 | 34.48 | 1.12 |

Electrical Schematic



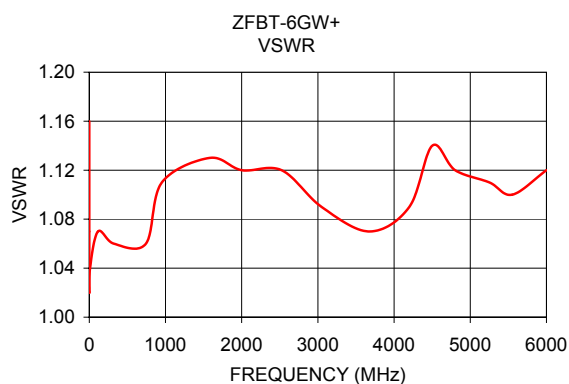
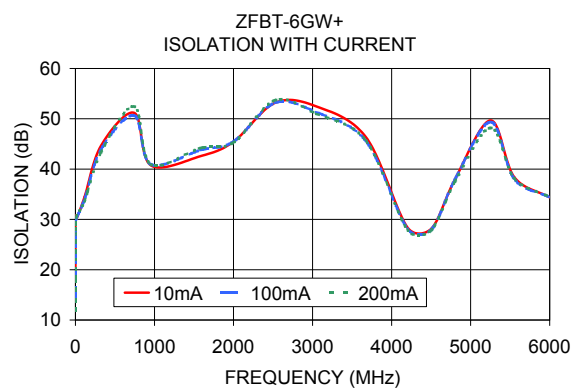
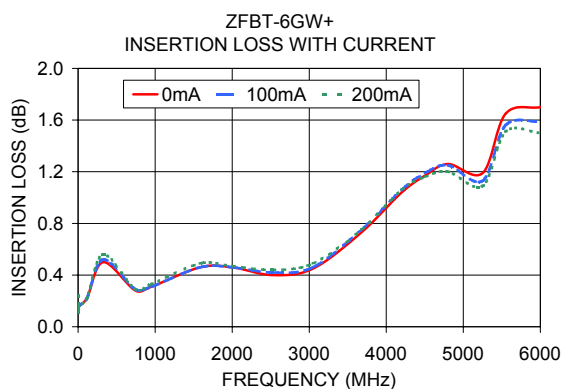
Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. C
M151107
ZFBT-6GW+
DJ/RS/CP/AM
151007



Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

