

# Coaxial Bias-Tee

50Ω Wideband 10 to 4200 MHz

## ZFBT-4R2G-FT+



### 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     | in (SMA female)    |
| RF&DC  | out (SMA male)     |
| DC     | (feed-through pin) |
| GROUND | GROUND             |

### Features

- wideband, 10 to 4200 MHz
- low insertion loss, 0.6 dB typ.
- feed through terminal per DC port

### Applications

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

CASE STYLE: Y460

| Connectors           | Model         | Price   | Qty.  |
|----------------------|---------------|---------|-------|
| SMA                  | ZFBT-4R2G-FT+ | \$59.95 | (1-9) |
| BRACKET (OPTION "B") |               | \$5.00  | (1+)  |

### +RoHS Compliant

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

### Bias-Tee Electrical Specifications

| FREQUENCY (MHz) |       | INSERTION LOSS* (dB) |      |      | ISOLATION* (dB)<br>(RF port to DC port)<br>(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.        | Max. | Typ. | Max. |
| 10              | 4200  | 0.15                 | 0.6  | 0.6  | 1.2  | 0.6  | 1.6  | —           | —    | —    | —    |
|                 |       |                      |      |      |  |      |      | 1.06        | 1.2  | 1.13 | 1.3  |
|                 |       |                      |      |      |  |      |      |             |      | 1.13 | 1.3  |

L= low range ( $f_L$  to 10  $f_L$ )

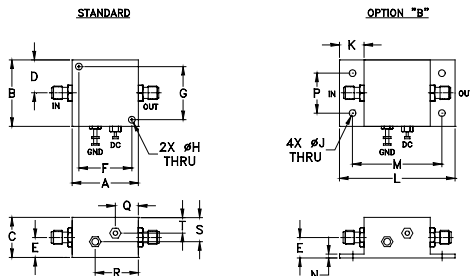
M= mid range (10  $f_L$  to  $f_U/2$ )

U= upper range ( $f_U/2$  to  $f_U$ )

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

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

### Outline Drawing



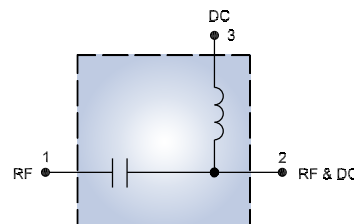
### Outline Dimensions (inch/mm)

| A     | B     | C     | D     | E    | F     | G     | H     | J     | K     |
|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| 1.25  | 1.25  | .75   | .63   | .36  | 1.000 | 1.000 | .125  | .125  | .46   |
| 31.75 | 31.75 | 19.05 | 16.00 | 9.14 | 25.40 | 25.40 | 3.18  | 3.18  | 11.68 |
| L     | M     | N     | P     | Q    | R     | S     | T     | wt.   |       |
| 2.18  | 1.688 | .06   | .750  | .50  | .80   | .45   | .29   | grams |       |
| 55.37 | 42.88 | 1.524 | 19.05 | 12.7 | 20.32 | 11.43 | 7.366 | 38    |       |

### 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



For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

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Page 1 of 2

