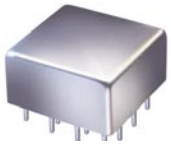
*Plug-In*

# Bias-Tee

## PBTC-3GW+
## PBTC-3GW

50Ω Wideband 0.1 to 3000 MHz



CASE STYLE: C07
PRICE: $49.20 ea. QTY. (1-9)

*+ RoHS compliant in accordance with EU Directive (2002/95/EC)*

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

### Maximum Ratings

| | |
|---|---|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 30dBm max. |
| Voltage at DC port | 30V max. |
| Input Current | 500mA |
| DC resistance from DC to RF&DC port | 4.5 ohm typ. |

### Pin Connections

| | |
|---|---|
| RF | 9 |
| RF&DC | 12 |
| DC | 3 |
| GROUND | all other pins |
| CASE GROUND | 1,2,4,5,7,8,11,13,14,15,16 |

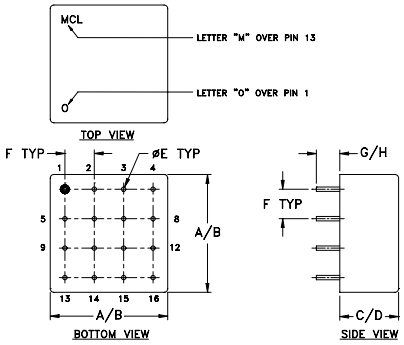
### Features

- wideband, 0.1 to 3000 MHz
- low insertion loss, 0.6 dB typ.
- hermetic, metal case

### Applications

- biasing laser diodes
- biasing amplifiers
- biasing active antennas
- DC return
- DC blocking
- military, hi-rel application

### Outline Drawing




### Outline Dimensions ( inch / mm )

| A | B | C | D | E |
|---|---|---|---|---|
| .770 | .810 | .380 | .410 | .030 |
| 19.56 | 20.57 | 9.65 | 10.41 | 0.76 |

| F | G | H | wt |
|---|---|---|---|
| .200 | .20 | .14 | grams |
| 5.08 | 5.08 | 3.56 | 11.0 |

### Bias-Tee Electrical Specifications

| FREQUENCY (MHz) | | INSERTION LOSS* (dB) | | | | | | ISOLATION* (dB) (RF port to DC port) (RF&DC port to DC port) | | | | | | VSWR** (:1) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L | | M | | U | | L | | M | | U | | L | | M | | U | |
| $f_L$ | $f_U$ | Typ. | Max. | Typ. | Max. | Typ. | Max. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Max. | Typ. | Max. | Typ. | Max. |
| 0.1 | 3000 | 0.15 | 0.8 | 0.3 | 1.5 | 1.0 | 2.5 | 25 | 15 | 30 | 20 | 35 | 20 | 1.06 | 1.6 | 1.13 | 1.66 | 1.6 | 1.7 |

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 $f_U$)

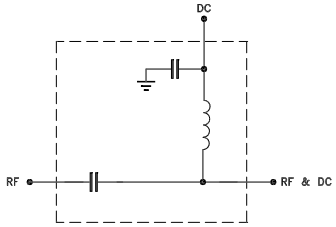
* Insertion Loss 1 dB Max. and Isolation 7 dB Min. 0.1 to 0.3 MHz
Insertion Loss and Isolation are guaranteed up to 20 dBm-RF power and 200mA DC current.

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

### Typical Performance Data

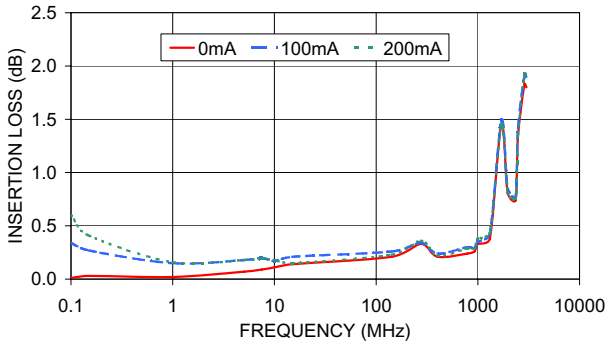
| Freq. (MHz) | Pin (dBm) | INSERTION LOSS (dB) with Current | | | | | | ISOLATION (dB) (Pin= -10dBm) with current | | | | | | VSWR (:1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0mA | 20mA | 50mA | 100mA | 150mA | 200mA | 10mA | 20mA | 50mA | 100mA | 150mA | 200mA | |
| 0.10 | 19.91 | 0.01 | 0.22 | 0.24 | 0.34 | 0.47 | 0.60 | 16.77 | 16.38 | 15.07 | 12.23 | 10.85 | 10.02 | 1.19 |
| 0.15 | 19.90 | 0.03 | 0.20 | 0.21 | 0.27 | 0.33 | 0.41 | 19.48 | 18.98 | 17.69 | 14.60 | 12.92 | 11.80 | 1.13 |
| 1.00 | 19.20 | 0.02 | 0.15 | 0.15 | 0.15 | 0.15 | 0.16 | 30.27 | 30.21 | 29.76 | 28.40 | 27.06 | 25.91 | 1.02 |
| 5.05 | 19.91 | 0.07 | 0.17 | 0.18 | 0.18 | 0.18 | 0.18 | 32.03 | 31.73 | 31.24 | 31.01 | 31.05 | 31.05 | 1.02 |
| 7.53 | 19.82 | 0.09 | 0.17 | 0.18 | 0.20 | 0.20 | 0.19 | 31.82 | 31.38 | 30.76 | 30.39 | 30.35 | 30.49 | 1.02 |
| 10.00 | 19.79 | 0.11 | 0.15 | 0.16 | 0.17 | 0.17 | 0.18 | 31.50 | 31.01 | 29.96 | 29.26 | 29.22 | 29.42 | 1.02 |
| 15.00 | 21.83 | 0.14 | 0.18 | 0.18 | 0.21 | 0.21 | 0.15 | 31.07 | 30.42 | 28.95 | 27.53 | 27.08 | 27.10 | 1.02 |
| 141.86 | 20.57 | 0.21 | 0.25 | 0.25 | 0.26 | 0.27 | 0.23 | 33.27 | 33.24 | 33.17 | 33.06 | 32.90 | 32.75 | 1.02 |
| 276.19 | 20.83 | 0.33 | 0.37 | 0.36 | 0.34 | 0.36 | 0.36 | 33.42 | 33.39 | 33.57 | 33.84 | 33.99 | 34.10 | 1.01 |
| 403.05 | 20.98 | 0.21 | 0.25 | 0.22 | 0.24 | 0.27 | 0.22 | 40.88 | 41.42 | 41.56 | 42.17 | 41.76 | 42.32 | 1.04 |
| 791.10 | 20.55 | 0.24 | 0.27 | 0.28 | 0.30 | 0.32 | 0.29 | 35.93 | 36.18 | 36.01 | 35.69 | 35.76 | 36.04 | 1.13 |
| 925.43 | 20.02 | 0.26 | 0.28 | 0.26 | 0.29 | 0.33 | 0.29 | 30.93 | 30.83 | 30.98 | 30.93 | 31.00 | 31.02 | 1.16 |
| 1000.00 | 19.70 | 0.33 | 0.34 | 0.35 | 0.35 | 0.38 | 0.38 | 35.63 | 35.41 | 35.62 | 35.80 | 35.55 | 35.86 | 1.17 |
| 1313.48 | 19.25 | 0.38 | 0.42 | 0.41 | 0.43 | 0.44 | 0.44 | 37.38 | 37.67 | 37.35 | 37.42 | 38.05 | 38.00 | 1.26 |
| 1701.53 | 20.14 | 1.45 | 1.46 | 1.50 | 1.49 | 1.50 | 1.45 | 34.14 | 33.79 | 33.97 | 34.12 | 34.23 | 34.09 | 1.38 |
| 1962.71 | 19.86 | 0.81 | 0.79 | 0.85 | 0.85 | 0.84 | 0.81 | 34.01 | 34.04 | 34.25 | 34.12 | 34.13 | 34.42 | 1.40 |
| 2350.76 | 20.42 | 0.74 | 0.80 | 0.80 | 0.78 | 0.80 | 0.76 | 39.61 | 38.75 | 38.52 | 38.86 | 38.96 | 38.75 | 1.50 |
| 2477.63 | 20.80 | 1.34 | 1.38 | 1.41 | 1.42 | 1.41 | 1.36 | 37.19 | 37.73 | 37.85 | 36.87 | 37.46 | 36.98 | 1.48 |
| 2873.14 | 21.04 | 1.83 | 1.92 | 1.93 | 1.91 | 1.93 | 1.93 | 40.84 | 40.10 | 39.86 | 41.04 | 40.12 | 39.78 | 1.39 |
| 3000.00 | 21.16 | 1.80 | 1.91 | 1.92 | 1.90 | 1.92 | 1.91 | 34.25 | 34.42 | 34.80 | 37.52 | 35.61 | 34.79 | 1.31 |

### Electrical Schematic

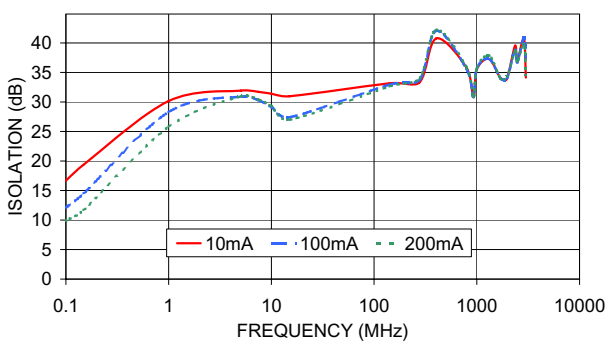


# Performance Charts

PBTC-3GW
INSERTION LOSS WITH CURRENT




PBTC-3GW
ISOLATION WITH CURRENT




PBTC-3GW
VSWR