

# Surface Mount Bias-Tee

# TCBT-6G+ TCBT-6G

Wideband 50 to 6000 MHz

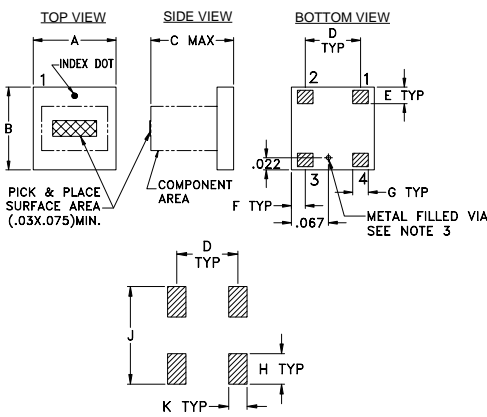
## Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |
| RF Power              | 25dBm max.     |
| Voltage at DC port    | 25V max.       |
| Input Current         | 100mA          |

## Pad Terminations

|                          |   |
|--------------------------|---|
| RF                       | 4 |
| RF&DC                    | 3 |
| DC                       | 1 |
| ISOLATE (see PCB layout) | 2 |

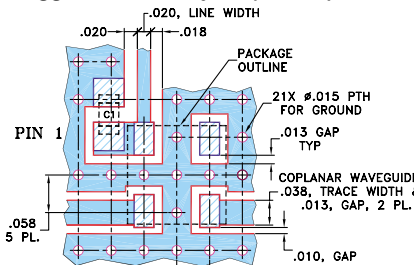
## Outline Drawing



## Outline Dimensions (inch/mm)

| A    | B    | C    | D     | E    | F    | G    |
|------|------|------|-------|------|------|------|
| .150 | .150 | .150 | .100  | .030 | .025 | .028 |
| 3.81 | 3.81 | 3.81 | 2.54  | 0.76 | 0.64 | 0.71 |
| H    | J    | K    | wt    |      |      |      |
| .050 | .160 | .030 | grams |      |      |      |
| 1.27 | 4.06 | 0.76 | 0.10  |      |      |      |

## Demo Board MCL P/N: TB-268 Suggested PCB Layout (PL-146)



- CAPACITOR C1: .010 uF, 0603 SIZE
- NOTE: 1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
  - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

## Features

- wideband, 50-6000 MHz
- low insertion loss, 0.7 dB typ.
- miniature surface mount 0.15"x0.15"
- protected by US Patent 7,012,486

## Applications

- biasing amplifiers
- biasing of laser diodes
- biasing of active antennas



CASE STYLE: GU1041  
PRICE: \$9.95 ea. QTY (10-49)

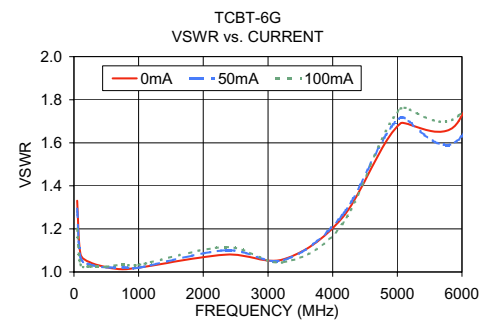
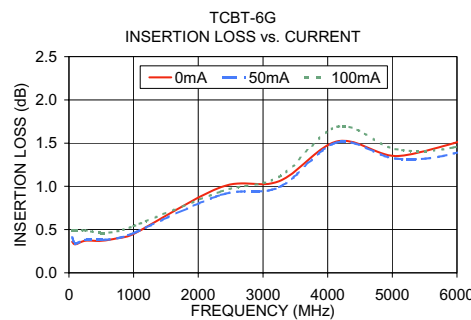
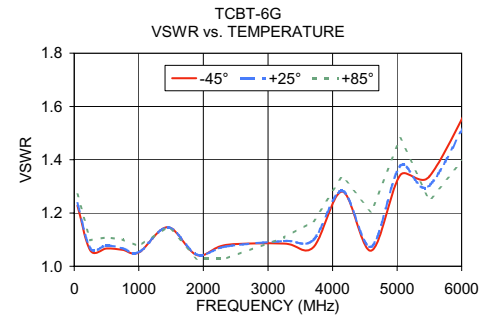
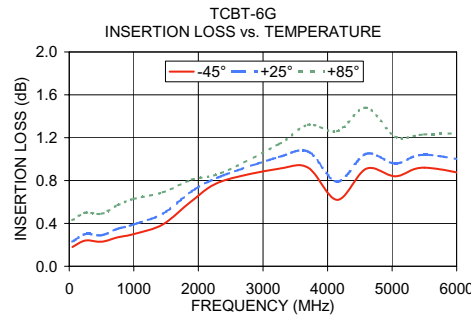
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

## Electrical Specifications

| MODEL NO.  | FREQ. RANGE (MHz) | INSERTION LOSS (dB) |     |     | ISOLATION (dB)<br>(RF port to DC port)<br>(RF&DC port to DC port) |     |     | VSWR (:1) |    |    |    |    |    |      |     |     |     |     |     |
|------------|-------------------|---------------------|-----|-----|---|-----|-----|-----------|----|----|----|----|----|------|-----|-----|-----|-----|-----|
|            |                   | L                   | M   | U   | L   | M   | U   | L         | M  | U  |    |    |    |      |     |     |     |     |     |
| TCBT-6G(+) | 50-6000           | 0.2                 | 0.8 | 0.7 | 1.8   | 1.1 | 2.5 | 52        | 38 | 28 | 18 | 19 | 17 | 1.05 | 1.5 | 1.1 | 1.3 | 1.2 | 2.2 |

L= 50-500 MHz M=500-3000 MHz U=3000-6000 MHz  
External C1(0.01µF) is required. See electrical schematic and PCB layout.



## Functional Schematic

