

# Balanced <sup>top hat</sup> RF Transformer

50Ω 10 to 1800 MHz

## TRS1.5-182+

### Features

- suitable for tin/lead and RoHS solder systems
- wideband, 10 to 1800 MHz
- balanced transmission line
- good return loss, 20 dB typ. at 1 dB band
- excellent amplitude unbalance, 0.3 dB typ.
- aqueous washable
- excellent intermod suppression



Generic photo used for illustration purposes only  
CASE STYLE: TT1618

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

**Available Tape and Reel at no extra cost**

| Reel Size | Devices/Reel |
|-----------|--------------|
| 13"       | 900          |

### Electrical Specifications at 25°C

| Parameter                             | Frequency (MHz) | Min. | Typ. | Max. | Unit   |
|---------------------------------------|-----------------|------|------|------|--------|
| Impedance Ratio (secondary / primary) |                 |      | 1.5  |      |        |
| Frequency Range                       |                 | 10   |      | 1800 | MHz    |
| Insertion Loss*                       | 50 -1200        | —    | 0.6  | 1.4  | dB     |
|                                       | 10-1800         | —    | 0.9  | 2.8  |        |
| Amplitude Unbalance                   | 50-1000         | —    | 0.3  | 0.95 | dB     |
|                                       | 1000-1200       | —    | 0.5  | 0.90 |        |
| Phase Unbalance                       | 10-1800         | —    | 0.7  | 1.70 | Degree |
|                                       | 50-500          | —    | 2    | 8    |        |
| Primary Return Loss (Input)           | 500-1000        | —    | 3    | 9    | dB     |
|                                       | 10-1800         | —    | 7.5  | 10   |        |
|                                       | 50-500          | —    | 18   | —    |        |
|                                       | 500-1000        | —    | 17   | —    |        |
| Primary Return Loss (Input)           | 1000-1200       | —    | 17   | —    | dB     |
|                                       | 10-1800         | —    | 14   | —    |        |

\*Insertion Loss is referenced to mid-band loss, 0.65 dB typ.

### Maximum Ratings

| Parameter             | Ratings        |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |
| RF Power              | 1W             |
| DC Current            | 30mA           |

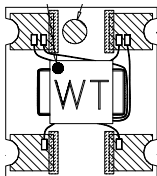
Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

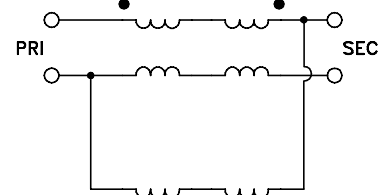
| Function      | Pin Number |
|---------------|------------|
| PRIMARY DOT   | 4          |
| PRIMARY       | 1          |
| SECONDARY DOT | 2          |
| SECONDARY     | 3          |

Demo Board MCL P/N: TB-789+

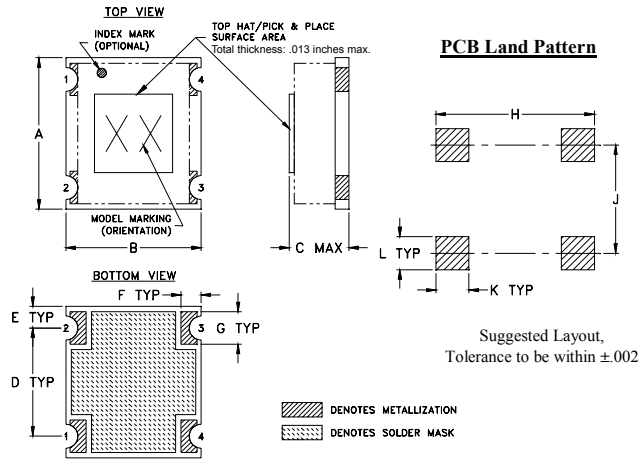
### Product Marking



### Config. K



## Outline Drawing



## Outline Dimensions (inch/mm)

| A    | B    | C    | D    | E    | F     |
|------|------|------|------|------|-------|
| .280 | .250 | .12  | .200 | .040 | .037  |
| 7.11 | 6.35 | 3.05 | 5.08 | 1.02 | 0.94  |
| G    | H    | J    | K    | L    | wt.   |
| .060 | .293 | .200 | .061 | .061 | grams |
| 1.52 | 7.44 | 5.08 | 1.55 | 1.55 | 2.8   |

## Typical Performance Data

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) | AMPLITUDE UNBALANCE (dB) | PHASE UNBALANCE (Deg.) |
|-----------------|---------------------|--------------------|--------------------------|------------------------|
| 10.0            | 0.67                | 20.51              | 0.85                     | 7.60                   |
| 50.0            | 0.60                | 25.09              | 0.68                     | 1.76                   |
| 100.0           | 0.58                | 23.52              | 0.62                     | 0.41                   |
| 500.0           | 0.77                | 16.29              | 0.33                     | 3.89                   |
| 1050.0          | 1.09                | 14.27              | 0.45                     | 5.50                   |
| 1200.0          | 1.19                | 14.14              | 0.65                     | 5.02                   |
| 1300.0          | 1.27                | 13.80              | 0.78                     | 4.52                   |
| 1400.0          | 1.37                | 13.30              | 0.88                     | 3.92                   |
| 1600.0          | 1.63                | 11.87              | 1.04                     | 2.47                   |
| 1800.0          | 2.01                | 10.08              | 1.15                     | 1.38                   |

