

# Surface Mount RF Transformer

75Ω 5 to 3000 MHz

## TC1-33-75G2A+



Generic photo used for illustration purposes only

CASE STYLE: AT224-3

### Features

- suitable for tin/lead and RoHS solder systems
- wideband, 5 to 3000 MHz
- balanced transmission line
- good return loss, 20 dB typ. at 1 dB band
- excellent amplitude unbalance, 0.3 dB typ. and phase unbalance, 3 deg typ. in 1 dB bandwidth
- aqueous washable

### +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          |
|-----------|-----------------------|
| 7"        | 20, 50, 100, 200, 500 |
| 13"       | 1000, 2000            |

### Electrical Specifications at 25°C

| Parameter           | Frequency (MHz) | Min. | Typ. | Max. | Unit   |
|---------------------|-----------------|------|------|------|--------|
| Impedance Ratio     |                 |      | 1    |      | Ohm    |
| Frequency Range     |                 | 5    |      | 3000 | MHz    |
| Insertion Loss*     | 2000 - 3000     |      | 3.0  |      | dB     |
|                     | 1200 - 2000     |      | 2.0  |      |        |
|                     | 5 - 1200        |      | 1.0  |      |        |
| Amplitude Unbalance | 1200 - 2000     |      | 1.0  |      | dB     |
|                     | 5 - 1200        |      | 0.3  |      |        |
| Phase Unbalance     | 1200 - 2000     |      | 4.0  |      | Degree |
|                     | 5 - 1200        |      | 3.0  |      |        |

\* Insertion Loss is referenced to mid-band loss, 1.0 dB typ.

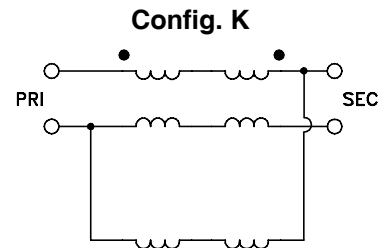
### Maximum Ratings

| Parameter             | Ratings        |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |
| RF Power              | 0.25W          |
| DC Current            | 30mA           |

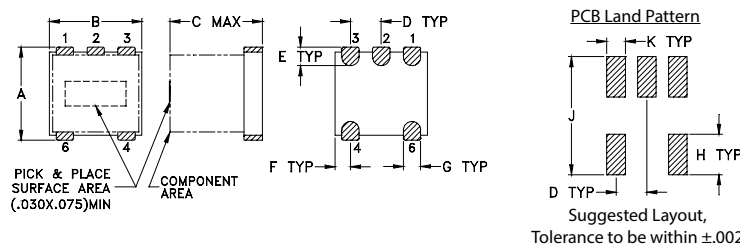
Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

| Function      | Pin Number |
|---------------|------------|
| PRIMARY DOT   | 6          |
| PRIMARY       | 4          |
| SECONDARY DOT | 1          |
| SECONDARY     | 3          |
| NOT USED      | 2          |



## Outline Drawing

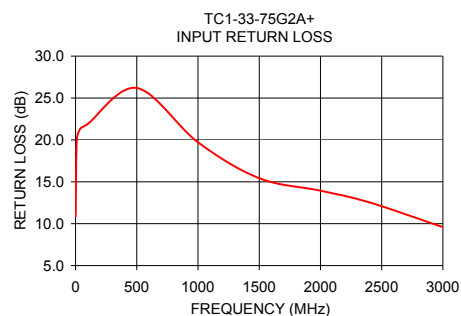
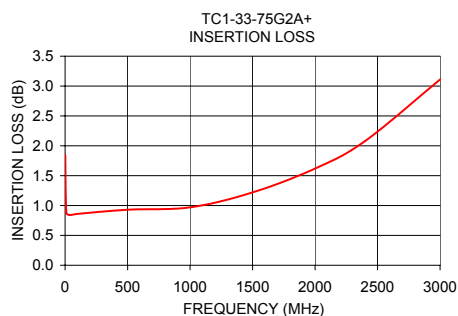


## Outline Dimensions (inch/mm)

|      |      |      |      |       |      |
|------|------|------|------|-------|------|
| A    | B    | C    | D    | E     | F    |
| .150 | .150 | .150 | .050 | .030  | .025 |
| 3.81 | 3.81 | 3.81 | 1.27 | 0.76  | 0.64 |
| G    | H    | J    | K    | wt    |      |
| .028 | .065 | .190 | .030 | grams |      |
| 0.71 | 1.65 | 4.83 | 0.76 | 0.10  |      |

## Typical Performance Data

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) | AMPLITUDE UNBALANCE (dB) | PHASE UNBALANCE (Deg.) |
|-----------------|---------------------|--------------------|--------------------------|------------------------|
| 1.00            | 1.85                | 10.86              | 0.38                     | 2.91                   |
| 10.00           | 0.88                | 20.01              | 0.04                     | 0.84                   |
| 40.00           | 0.84                | 21.37              | 0.00                     | 0.58                   |
| 100.00          | 0.86                | 21.90              | 0.01                     | 0.92                   |
| 500.00          | 0.93                | 26.20              | 0.10                     | 3.63                   |
| 1000.00         | 0.97                | 19.72              | 0.18                     | 4.76                   |
| 1500.00         | 1.22                | 15.43              | 0.77                     | 3.62                   |
| 2000.00         | 1.62                | 13.94              | 1.40                     | 0.56                   |
| 2400.00         | 2.08                | 12.54              | 1.84                     | 4.10                   |
| 3000.00         | 3.11                | 9.59               | 2.06                     | 12.70                  |



## Additional 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.
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