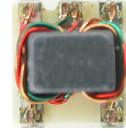


# Surface Mount RF Transformer

50Ω 0.5 to 300 MHz

TC4-1T+  
Upgraded Version\*



CASE STYLE: AT224-1A

\*Addition of Top hat™ feature

**Benefits**

- Allows faster pick-and-place
- Enables visual identification marking

**+RoHS Compliant**

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

## Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -20°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

|               |   |
|---------------|---|
| PRIMARY DOT   | 6 |
| PRIMARY       | 4 |
| SECONDARY DOT | 1 |
| SECONDARY     | 3 |
| SECONDARY CT  | 2 |
| NOT USED      | 5 |

## Features

- wide band 0.5-300 MHz, usable over 0.2-450 MHz
- good return loss
- impedance matching
- plastic base with leads
- aqueous washable

## Applications

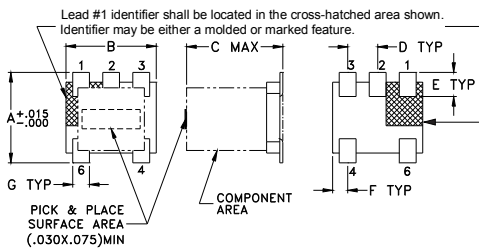
- catv

## Transformer Electrical Specifications

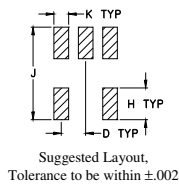
| Ω<br>RATIO<br>(Secondary/Primary) | FREQUENCY<br>(MHz) | INSERTION LOSS* |             |             |
|-----------------------------------|--------------------|-----------------|-------------|-------------|
|                                   |                    | 3 dB<br>MHz     | 2 dB<br>MHz | 1 dB<br>MHz |
| 4                                 | 0.5-300            | —               | 0.5-300     | 1.5-100     |

\* Insertion Loss is referenced to mid-band loss, 0.3 dB typ.

## Outline Drawing AT224-1A



## PCB Land Pattern



## Outline Dimensions (inch/mm)

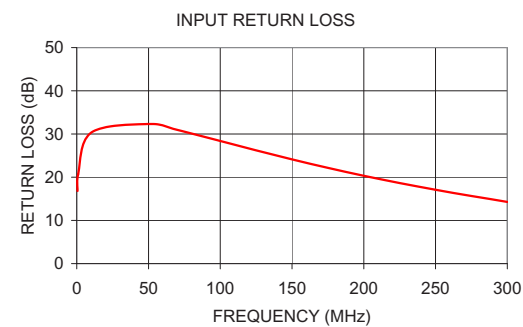
| A    | B    | C    | D    | E     | F    |
|------|------|------|------|-------|------|
| .150 | .150 | .160 | .050 | .040  | .025 |
| 3.81 | 3.81 | 4.06 | 1.27 | 1.02  | 0.64 |
| G    | H    | J    | K    | wt    |      |
| .028 | .065 | .190 | .030 | grams |      |
| 0.71 | 1.65 | 4.83 | 0.76 | 0.15  |      |

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

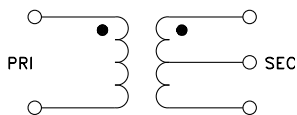
| Reel Size | Devices/Reel          |
|-----------|-----------------------|
| 7"        | 20, 50, 100, 200, 500 |
| 13"       | 1000, 2000            |

## Typical Performance Data

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) |
|-----------------|---------------------|--------------------|
| 0.50            | 0.51                | 16.81              |
| 1.00            | 0.44                | 20.73              |
| 10.00           | 0.27                | 30.31              |
| 50.00           | 0.30                | 32.32              |
| 70.00           | 0.32                | 30.95              |
| 100.00          | 0.36                | 28.39              |
| 150.00          | 0.40                | 24.12              |
| 200.00          | 0.45                | 20.32              |
| 250.00          | 0.54                | 17.09              |
| 300.00          | 0.62                | 14.29              |



## Config. A



## 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.
- The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

