



SURFACE MOUNT

RF Transformer

TC1-1+

Mini-Circuits

50Ω 1.5 to 500 MHz

FEATURES

- Good Return Loss
- Usable Over 0.4-500 MHz
- Excellent Amplitude Unbalance, 0.1 dB Typ. and Phase Unbalance, 2 deg Typ. in 1 dB Bandwidth
- Plastic Base with Leads
- Aqueous Washable



Generic photo used for illustration purposes only

CASE STYLE: AT224-1A

+RoHS Compliant

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

APPLICATIONS

- Balanced to Unbalanced Transformation
- Push-Pull Amplifiers

ELECTRICAL SPECIFICATIONS AT +25°C

| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|-----------------------------|-----------------|------|------|------|------|
| Impedance Ratio | | | 1 | | Ohm |
| Frequency Range | | 1.5 | | 500 | MHz |
| Insertion Loss ¹ | 1.5-500 | | 3 | | dB |
| | 2.5-400 | | 2 | | |
| | 5-350 | | 1 | | |

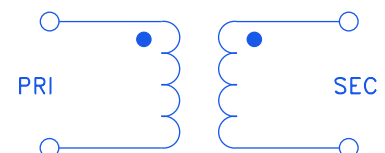
1. Insertion Loss is referenced to mid-band loss, 0.6 dB typ.

ABSOLUTE MAXIMUM RATINGS

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

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

CONFIG. C



REV. F
ECO-025303
TC1-1+
MCL NY
250423

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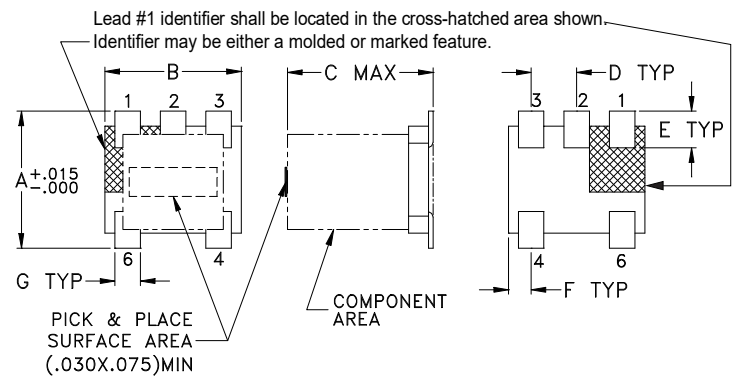


PIN CONNECTIONS

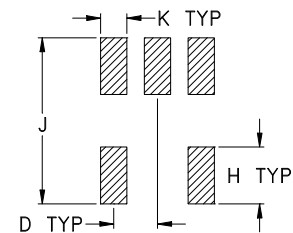
| Function | Pin Number |
|---------------|------------|
| PRIMARY DOT | 6 |
| PRIMARY | 4 |
| SECONDARY DOT | 1 |
| SECONDARY | 3 |
| NOT USED | 2 |

PRODUCT MARKING: N/A

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within $\pm .002$

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 | |

TAPE & REEL INFORMATION: F17



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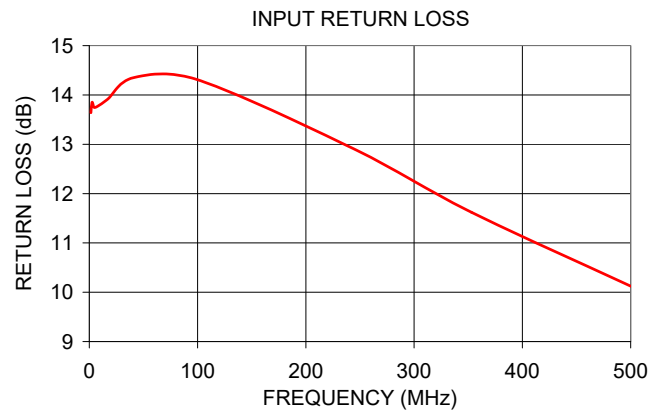
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TYPICAL PERFORMANCE DATA

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) |
|-----------------|---------------------|--------------------|
| 1.51 | 1.15 | 13.64 |
| 2.49 | 0.91 | 13.85 |
| 4.35 | 0.72 | 13.75 |
| 6.87 | 0.62 | 13.76 |
| 16.75 | 0.60 | 13.91 |
| 40.86 | 0.69 | 14.35 |
| 99.67 | 0.71 | 14.31 |
| 243.10 | 1.13 | 12.92 |
| 353.08 | 1.47 | 11.62 |
| 502.30 | 2.06 | 10.10 |



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/terms/viewterm.html

