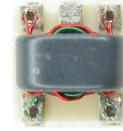


Surface Mount RF Transformer

TC1-1X+
Upgraded Version*

TC1-1+



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

50Ω 1.5 to 500 MHz

Maximum 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

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

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

Applications

- balanced to unbalanced transformation
- push-pull amplifiers

Electrical Specifications

| Ω RATIO | FREQUENCY (MHz) | INSERTION LOSS* | | |
|---------|-----------------|-----------------|----------|----------|
| | | 3 dB MHz | 2 dB MHz | 1 dB MHz |
| 1 | 1.5-500 | 1.5-500 | 2.5-400 | 5-350 |

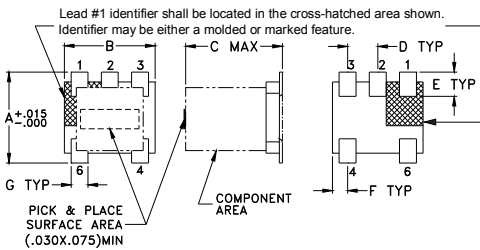
* Insertion Loss is referenced to mid-band loss, 0.6 dB typ.



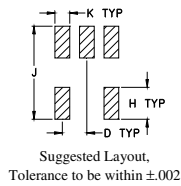
Available Tape and Reel at no extra cost

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

Outline Drawing AT224-1



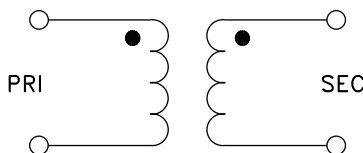
PCB Land Pattern



Outline Dimensions (inch/mm)

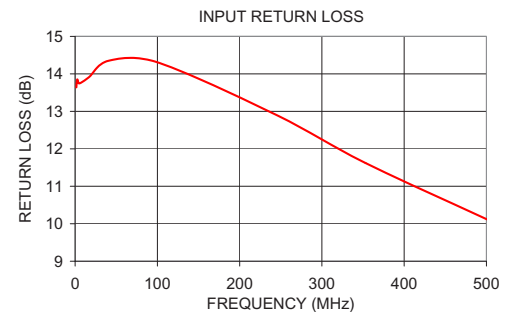
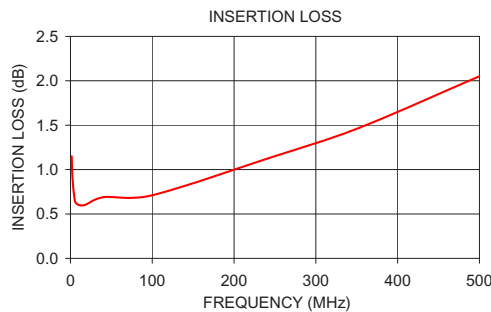
| A | B | C | D | E | F | G | H | J | K | wt grams |
|------|------|------|------|------|------|------|------|------|------|----------|
| .150 | .150 | .160 | .050 | .040 | .025 | .028 | .065 | .190 | .030 | 0.15 |
| 3.81 | 3.81 | 4.06 | 1.27 | 1.02 | 0.64 | 0.71 | 1.65 | 4.83 | 0.76 | |

Config. C



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/MCLStore/terms.jsp

