

Surface Mount RF Transformer

50Ω 0.25 to 400 MHz

TC1-42X+



Maximum Ratings

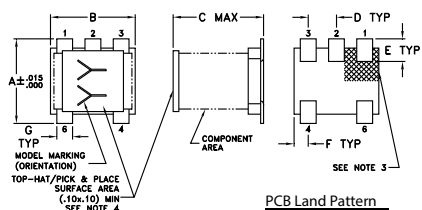
| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 0.25 W |
| DC current | 30mA |

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

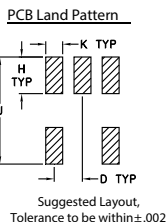
Pin Connections

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

Outline Drawing AT1521



Note:
1. Case Material Plastic
2. Termination Finish: Tin plate over Nickel plate.
3. Lead #1 identifier shall be located in the cross-hatched area shown, on bottom view. Identifier may be either a molded or marked feature.
4. Top-Hat total thickness: 0.13 inches max.

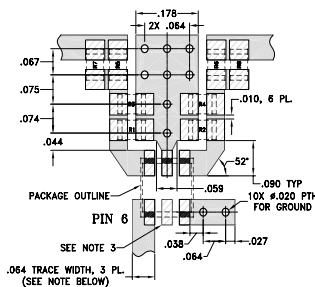


Outline Dimensions (inch)

| 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 |

Demo Board MCL P/N: TB-77 Suggested PCB Layout (PL-243)



| Res. No | Ohms Ω |
|---------|--------|
| R1 | 68.1 |
| R2 | 68.1 |
| R3 | 68.1 |
| R4 | 68.1 |
| R5 | 82.5 |
| R6 | 82.5 |
| R7 | 90.9 |
| R8 | 90.9 |

Notes:
1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. THIS PAD IS NOT REQUIRED FOR AT224 CASE STYLES.
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- plastic base with solder plated leads
- excellent amplitude unbalance, 0.2 dB typ. and phase unbalance, 3 deg. typ. in 1dB bandwidth
- aqueous washable

Applications

- balanced to unbalanced
- push-pull amplifier

CASE STYLE: AT1521

+RoHS Compliant

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

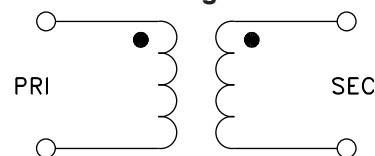
| Reel Size | Devices/Reel |
|-----------|-----------------------|
| 7" | 20, 50, 100, 200, 500 |
| 13" | 1000, 2000 |

Electrical Specifications

| Ω RATIO | FREQUENCY (MHz) | INSERTION LOSS* | | |
|---------|-----------------|-----------------|----------|----------|
| | | 3 dB MHz | 2 dB MHz | 1 dB MHz |
| 1 | 0.25-400 | 0.25-400 | 0.35-250 | 0.7-150 |

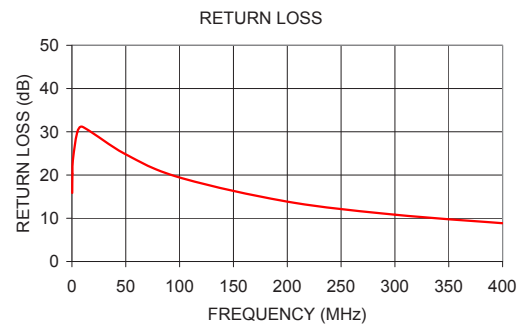
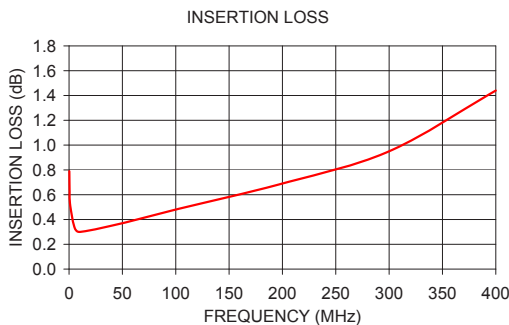
* Insertion Loss is referenced to mid-band loss, 0.3 dB typ.

Config. C



Typical Performance Data

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) |
|-----------------|---------------------|--------------------|
| 0.25 | 0.79 | 15.85 |
| 0.50 | 0.63 | 20.29 |
| 1.00 | 0.52 | 23.72 |
| 5.00 | 0.34 | 29.93 |
| 10.00 | 0.30 | 31.13 |
| 50.00 | 0.37 | 24.78 |
| 100.00 | 0.48 | 19.43 |
| 200.00 | 0.69 | 13.85 |
| 300.00 | 0.95 | 10.83 |
| 400.00 | 1.44 | 8.85 |



Notes

A. 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.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. 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



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