

Surface Mount RF Transformer

TC1-1-43X+

50Ω 650 to 4000 MHz



CASE STYLE: AT1521

Maximum Ratings

| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 250mW |
| 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

- wideband, 650 to 4000 MHz
- balanced transmission line
- good return loss
- excellent amplitude unbalance, 0.5 dB typ. and phase unbalance, 3 deg typ. in 1 dB bandwidth
- plastic base with leads
- aqueous washable

Applications

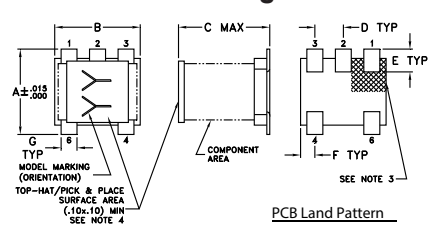
- balanced to unbalanced transformation
- push-pull amplifiers
- PCS/DCS
- MMDS

+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 |

Outline Drawing AT1521

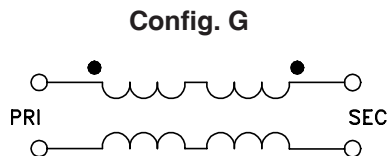


- Note:
1. Case Material Plastic
 2. Termination Finish: Tin plate over Nickel plate.
 3. Lead #1 identifier shall be located in the cross-hatched area shown, on bottom view. Identifier may be either a molded or marked feature.
 4. Top-Hat total thickness: 0.13 inches max.

Suggested Layout, Tolerance to be within ±.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 | |



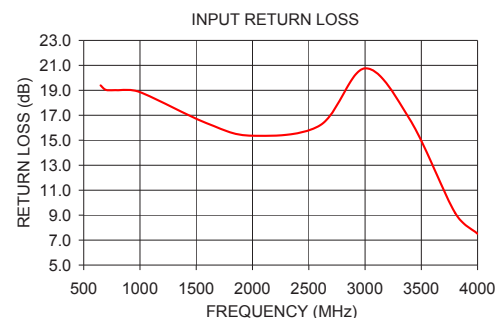
Electrical Specifications (T_{AMB} = 25°C)

| Ω RATIO | FREQUENCY (MHz) | INSERTION LOSS* | | PHASE UNBALANCE (Deg.) Typ. | | AMPLITUDE UNBALANCE (dB) Typ. | |
|---------|-----------------|-----------------|----------|-----------------------------|----------------|-------------------------------|----------------|
| | | 2 dB MHz | 1 dB MHz | 1 dB bandwidth | 2 dB bandwidth | 1 dB bandwidth | 2 dB bandwidth |
| 1 | 650-4000 | 650-4000 | 800-3000 | 3 | 4 | 0.5 | 0.5 |

*Insertion Loss is referenced to mid-band loss, 0.5 dB typ.

Typical Performance Data

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) | AMPLITUDE UNBALANCE (dB) | PHASE UNBALANCE (Deg.) |
|-----------------|---------------------|--------------------|--------------------------|------------------------|
| 650.00 | 0.30 | 19.40 | 0.72 | 7.04 |
| 700.00 | 0.30 | 19.03 | 0.70 | 6.11 |
| 800.00 | 0.32 | 19.01 | 0.65 | 4.73 |
| 1000.00 | 0.35 | 18.85 | 0.50 | 3.45 |
| 1600.00 | 0.45 | 16.34 | 0.15 | 0.32 |
| 2000.00 | 0.53 | 15.36 | 0.05 | 0.42 |
| 2600.00 | 0.62 | 16.20 | 0.40 | 0.66 |
| 3000.00 | 0.57 | 20.76 | 0.56 | 1.07 |
| 3800.00 | 1.34 | 9.18 | 0.41 | 4.79 |
| 4000.00 | 1.71 | 7.51 | 0.09 | 5.95 |



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



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