

Surface Mount RF Transformer

TC16-161TX+

50Ω 0.6 to 160 MHz



Generic photo used for illustration purposes only

CASE STYLE: AT1521

+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 |

Features

- plastic base with solder plated leads
- excellent amplitude unbalance, 0.1dB typ. and phase unbalance, 0.5 deg. typ.

Applications

- impedance matching
- balanced amplifier

Electrical Specifications at 25°C

| Parameter | Condition | Min. | Typ. | Max. | Unit |
|---------------------------------------|-----------|------|------|------|------|
| Impedance Ratio (secondary / primary) | | | 16 | | Ohm |
| Frequency Range | | 0.6 | | 160 | MHz |
| Insertion Loss* | 0.6-160 | | 3 | | dB |
| | 1.5-120 | | 2 | | |
| | 3-80 | | 1 | | |

* Insertion Loss is referenced to mid-band loss, 0.7 dB typ.

Maximum Ratings

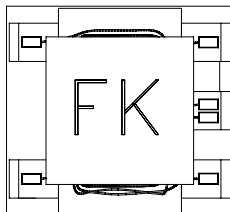
| Parameter | Ratings |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 0.25W |
| DC Current | 30mA |

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

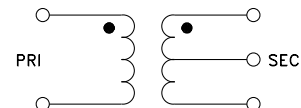
Pin Connections

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

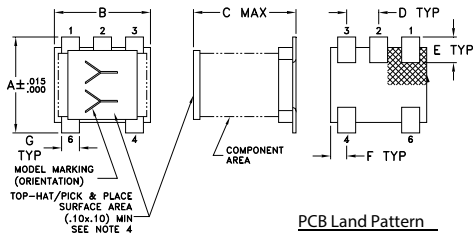
Product Marking



Config. A

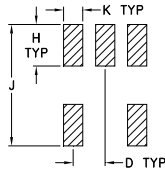


Outline Drawing



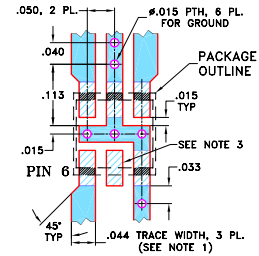
- Note:
1. Case Material Plastic
 2. Termination Finish: Tin plate over Nickel plate.
 3. Lead #1 identifier shall be located in the cross-hatched area shown, on bottom view. Identifier may be either a molded or marked feature.
 4. Top-Hat total thickness: .013 inches max.

PCB Land Pattern



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

Demo Board MCL P/N: TB-145 Suggested PCB Layout (PL-244)



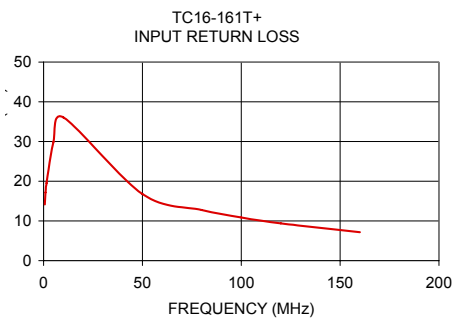
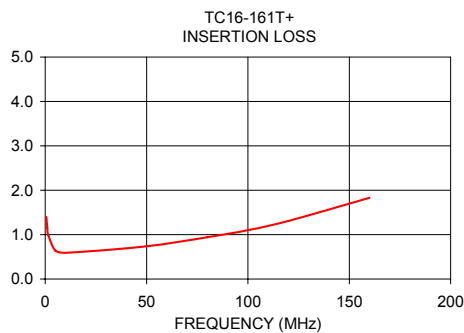
- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04550B WITH DIELECTRIC THICKNESS .020" \pm .0015"; COPPER: 1/2 OZ. ON EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. THIS PAD IS NOT REQUIRED FOR AT224 CASE STYLE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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 | |

Typical Performance Data

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) |
|-----------------|---------------------|--------------------|
| 0.60 | 1.40 | 14.15 |
| 1.00 | 1.16 | 17.14 |
| 1.50 | 0.99 | 19.51 |
| 5.00 | 0.64 | 29.93 |
| 10.00 | 0.59 | 36.06 |
| 50.00 | 0.74 | 16.77 |
| 80.00 | 0.94 | 12.74 |
| 100.00 | 1.10 | 10.87 |
| 120.00 | 1.31 | 9.38 |
| 160.00 | 1.83 | 7.18 |



Additional 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.
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