

# Surface Mount RF Transformer

## TC1.5-52TX+

50Ω 0.5 to 550 MHz



CASE STYLE: AT1521

### 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 CT	2
SECONDARY	3
NOT USED	5

### Features

- low insertion loss, 0.4 dB typ. in 1 dB Bandwidth
- excellent return loss, 25 dB typ. in 1 dB Bandwidth
- plastic base with leads
- aqueous washable

### Applications

- impedance matching, 50 to 75 ohms
- balanced amplifier

**+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

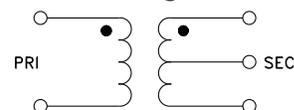
Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500
13"	1000, 2000

### Transformer Electrical Specifications

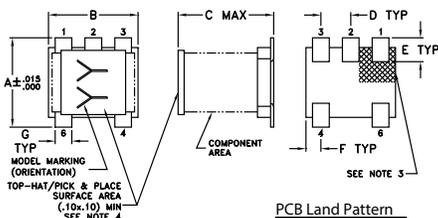
Ω RATIO (Secondary/Primary)	FREQUENCY (MHz)	INSERTION LOSS*		
		3 dB MHz	2 dB MHz	1 dB MHz
1.5	0.5-550	0.5-550	1-350	2-200

\* Insertion Loss is referenced to mid-band loss, 0.4 dB typ.

### Config. A

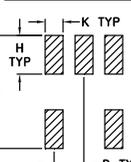


### Outline Drawing AT1521



- 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.

### PCB Land Pattern



Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch)

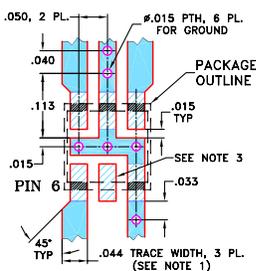
A	B	C	D	E	F
.150	.150	.160	.050	.040	.025
3.81	3.81	4.06	1.27	1.02	0.64

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-145

### Suggested PCB Layout (PL-244)



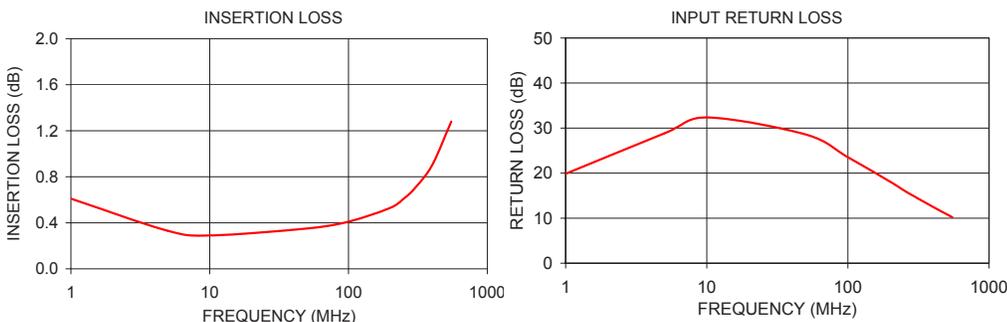
- NOTES:
1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. ON EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
  2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
  3. THIS PAD IS NOT REQUIRED FOR AT224 CASE STYLE.
-  DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)  
 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### 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](http://www.minicircuits.com/MCLStore/terms.jsp)

### Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)
0.50	0.82	15.72
1.00	0.61	19.84
5.00	0.33	28.81
10.00	0.29	32.35
50.00	0.35	28.60
100.00	0.41	23.52
200.00	0.53	18.07
250.00	0.61	16.13
300.00	0.70	14.71
400.00	0.90	12.52
550.00	1.28	10.19



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