

Surface Mount  **RF Transformer**

**TC1-1TX+**

50Ω 0.4 to 500 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**

- usable over 0.4-500 MHz
- excellent amplitude unbalance, 0.1 dB typ. and phase unbalance, 2 deg typ. in 1 dB bandwidth
- good return loss
- plastic base with leads
- aqueous washable

**Applications**

- VHF/UHF receivers/transmitters
- push-pull amplifiers

**Electrical Specifications at 25°C**

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio		1			Ohm
Frequency Range		0.4		500	MHz
Insertion Loss*	0.4-500		3		dB
	0.5-300		2		
	1-100		1		
Amplitude Unbalance	1-100		0.1		dB
	0.5-300		0.6		
Phase Unbalance	1-100		2		Degree
	0.5-300		5		

\* Insertion Loss is referenced to mid-band loss, 0.35 dB typ.

**Maximum Ratings**

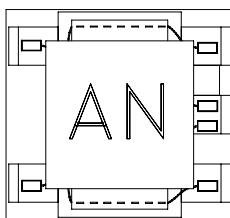
Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.25W
DC Current	30mA

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

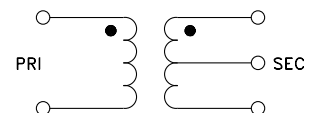
**Pin Connections**

Function	Pin Number
PRIMARY DOT	6
PRIMARY	4
SECONDARY DOT	1
SECONDARY	3
NOT USED	2

**Product Marking**

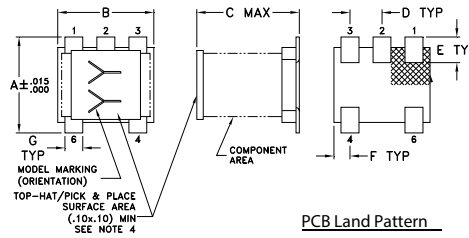


**Config. A**



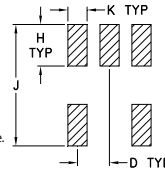
Demo Board MCL P/N: TB-145

## 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



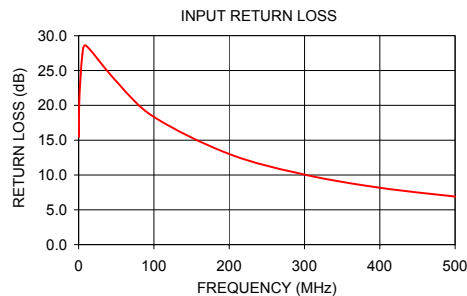
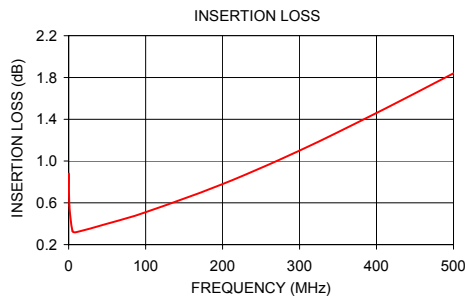
Suggested Layout,  
Tolerance to be within  $\pm .002$

## 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)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
0.30	0.88	15.46	0.06	0.03
1.00	0.57	21.01	0.04	0.05
5.00	0.33	27.35	0.02	0.01
10.00	0.32	28.55	0.02	0.15
50.00	0.40	23.46	0.02	0.63
100.00	0.51	18.34	0.06	1.24
200.00	0.78	13.01	0.21	2.57
300.00	1.10	10.06	0.47	3.99
400.00	1.46	8.16	0.82	5.66
500.00	1.84	6.90	1.26	7.50



## Additional Notes

- Performance and quality attributes 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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