

# Surface Mount RF Transformer

50Ω 0.5 to 2200 MHz

TC1.5-1+

TC1.5-1X+  
Upgraded Version\*



Generic photo used for illustration purposes only

CASE STYLE: AT224-1

\*Addition of Top hat™ feature  
Benefits  
• Allows faster pick-and-place  
• Enables visual identification marking

+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

## Maximum Ratings

Operating Temperature	-20°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	4
NOT USED	2,3

## Features

- wideband, 0.5-2200 MHz,
- excellent return loss
- terminations, solder plated with nickel barrier for solderability & excellent each resistance
- autotransformer
- plastic base with leads
- aqueous washable

## Applications

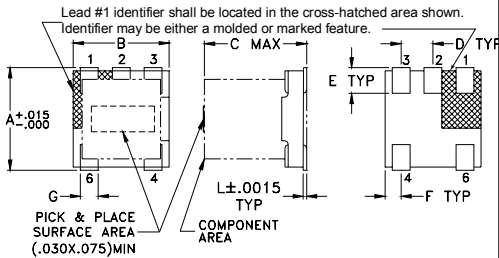
- impedance matching

## Electrical Specifications

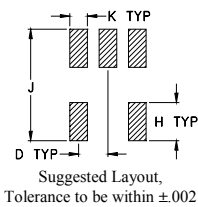
Ω RATIO (Secondary/Primary)	FREQUENCY (MHz)	INSERTION LOSS*		
		3 dB MHz	2 dB MHz	1 dB MHz
1.5	0.5-2200	0.5-2200	1-2000	2-1100

\* Insertion Loss is referenced to mid-band loss, .3 dB typ.

## Outline Drawing AT224-1



## PCB Land Pattern



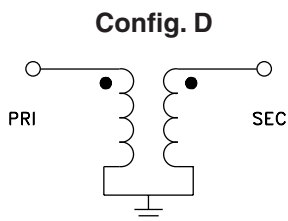
## Outline Dimensions (inch/mm)

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

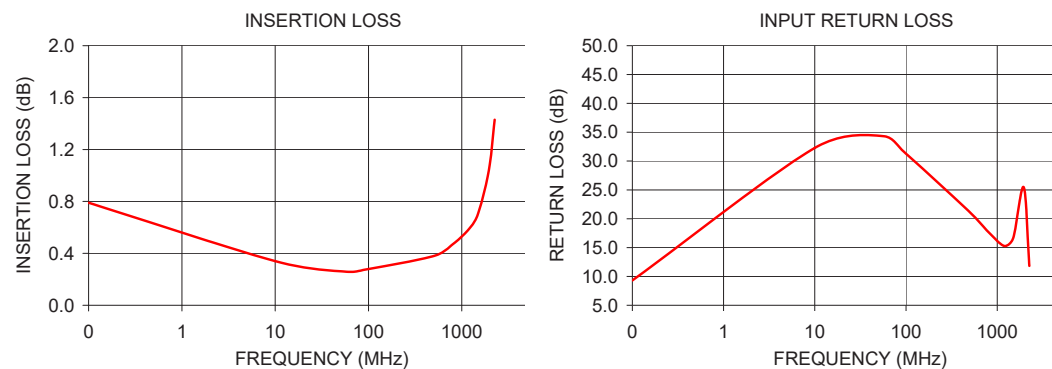
G	H	J	K	L	wt
.028	.065	.190	.030	.007	grams
0.71	1.65	4.83	0.76	0.18	0.15

## Demo Board MCL P/N: TB-41



## Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)
0.10	0.79	9.30
10.00	0.34	32.27
55.00	0.26	34.33
100.00	0.28	31.27
500.00	0.38	21.15
800.00	0.47	17.71
1200.00	0.59	15.28
1500.00	0.71	16.70
1950.00	1.04	25.47
2250.00	1.43	11.82



## 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-Circuit's 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-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

