

# Surface Mount RF Transformer

75Ω 3 to 500 MHz

## TC1.33-1T-75+

### Features

- wideband, 3 to 500 MHz
- DC isolated
- 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
- impedance matching
- CATV



Generic photo used for illustration purposes only

CASE STYLE: AT224-1A

#### +RoHS Compliant

The +Suffix identifies RoHS Compliance. See our website for methodologies and qualifications

Available Tape and Reel at no extra cost	
Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500
13"	1000, 2000

### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (Secondary/Primary)			1.33		Ohm
Frequency Range		3		500	MHz
Insertion Loss*	3.5-500		2		dB
	5-300		1		
Phase Unbalance	5-300		3		Deg.
	3.5-500		5		
Amplitude Unbalance	5-300		0.5		dB
	3.5-500		0.9		

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

### Maximum Ratings

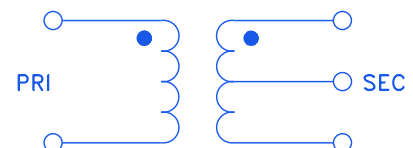
Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.25W

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

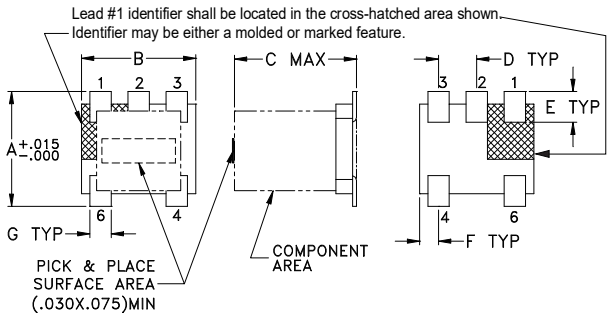
### Pin Connections

Function	Pin Number
PRIMARY DOT	6
PRIMARY	4
SECONDARY DOT	1
SECONDARY	3
SECONDARY CT	2

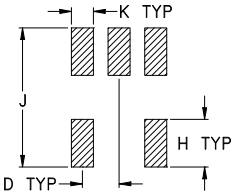
### Config. A



## Outline Drawing



## PCB Land Pattern



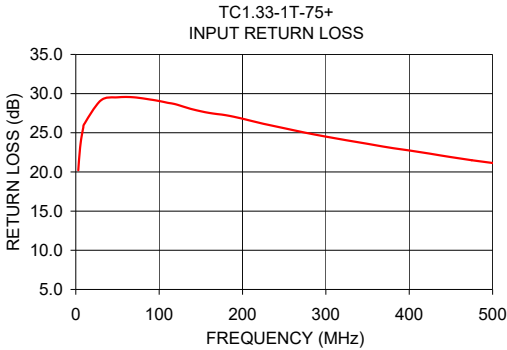
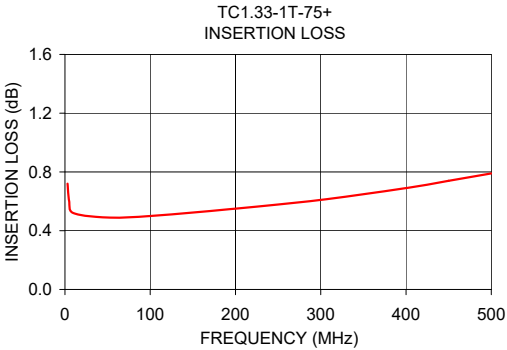
Suggested Layout, Tolerance to be within ±.002

## 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

## Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
3.00	0.72	20.21	0.03	0.05
5.00	0.60	22.88	0.03	0.08
10.00	0.52	26.09	0.02	0.17
50.00	0.49	29.53	0.00	0.67
100.00	0.50	29.06	0.05	1.30
200.00	0.55	26.79	0.25	2.48
300.00	0.61	24.51	0.56	3.37
400.00	0.69	22.74	0.96	4.07
450.00	0.74	21.90	1.18	4.37
500.00	0.79	21.14	1.44	4.62



### Additional 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/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)