

# Surface Mount RF Transformer

50Ω 5 to 300 MHz

TC3-1T+

TC3-1TX+  
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

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	3
SECONDARY CT	2

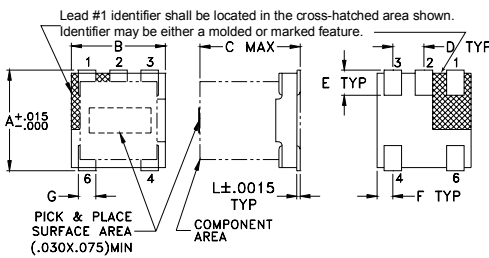
## Features

- excellent amplitude unbalance (0.3 dB typ) and phase unbalance (5 deg. typ) in 1 dB bandwidth
- plastic base with leads
- good return loss
- aqueous washable

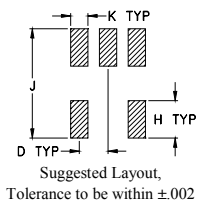
## Applications

- impedance matching
- balanced antennas

## 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

## Transformer Electrical Specifications

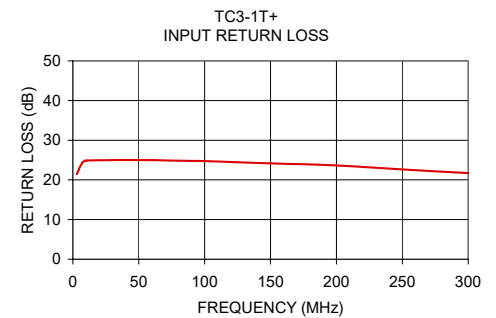
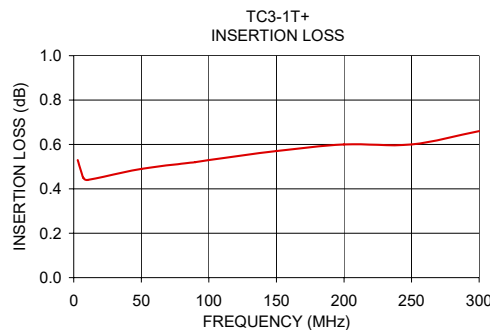
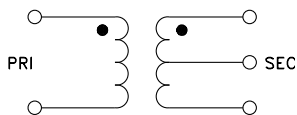
Ω RATIO (Secondary/Primary)	FREQUENCY (MHz)	INSERTION LOSS*		
		3 dB MHz	2 dB MHz	1 dB MHz
3	5-300	—	—	5-300

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

## Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)
3.00	0.53	21.45
7.00	0.45	24.23
10.00	0.44	24.89
50.00	0.49	24.99
90.00	0.52	24.79
100.00	0.53	24.74
150.00	0.57	24.15
200.00	0.60	23.65
250.00	0.60	22.64
300.00	0.66	21.73

## Config. A



## 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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Page 1 of 1

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