

# Surface Mount RF Transformer

## TC4-1W-7ALN+

50Ω

5 to 500 MHz



Generic photo used for illustration purposes only

CASE STYLE: AT224-1

+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	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.25W
DC Current	150*mA

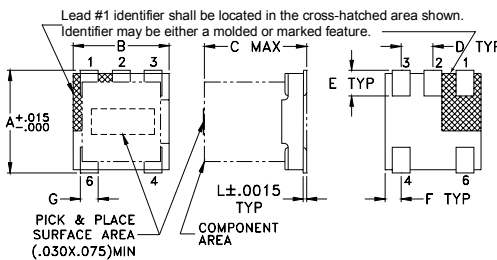
\*Applied through center tap, equal current to secondary dot & secondary.

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

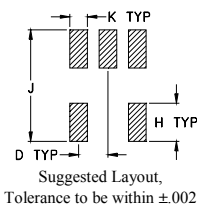
### Pin Connections

PRIMARY DOT	6
PRIMARY	4
SECONDARY DOT	1
SECONDARY	3
SECONDARY CT	2
NOT USED	5

### Outline Drawing AT224-1



### PCB Land Pattern



### 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	L	wt
.028	.065	.190	.030	.007	grams
0.71	1.65	4.83	0.76	0.18	0.15

### Features

- good return loss
- impedance matching
- plastic base with leads
- aqueous washable

### Applications

- wireless infrastructure
- Impedance matching

### Transformer Electrical Specifications

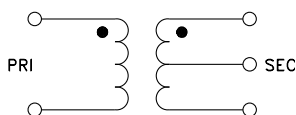
Ω RATIO (Secondary/Primary)	FREQUENCY (MHz)	INSERTION LOSS		
		3 dB MHz	2 dB MHz	1 dB MHz
4	5-500	5-500	10-300	25-200

Note: Electrical specifications defined with DC current at secondary and secondary dot equal. For DC imbalance of up to 7.5mA, the insertion loss degrades less than 1 dB.

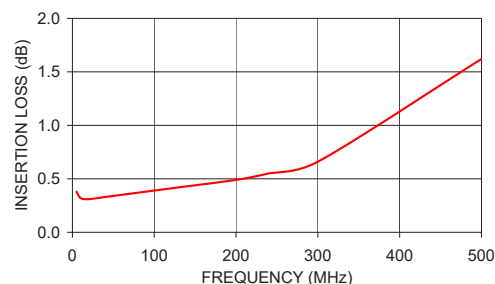
### Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)
5.0	0.38	28.17
10.0	0.32	31.57
20.0	0.31	34.24
40.0	0.33	35.27
80.0	0.37	33.01
140.0	0.43	28.01
200.0	0.49	23.35
300.0	0.66	17.23
400.0	1.02	12.75
500.0	1.62	9.57

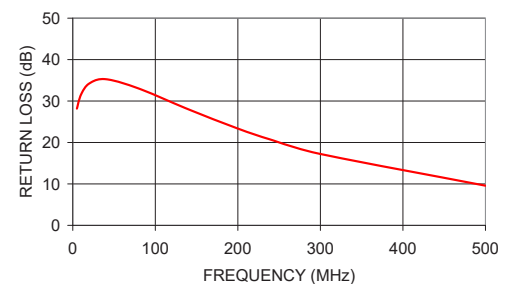
### Config. A



TC4-1W-7ALN+  
INSERTION LOSS



TC4-1W-7ALN+  
RETURN LOSS



### 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-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)



[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. B  
M151107  
TC4-1W-7ALN+  
IG/CP  
200407  
Page 1 of 1