

# Surface Mount RF Transformer

50Ω 0.6 to 160 MHz

TC16-161T+

TC16-161TX+  
Upgraded Version\*



CASE STYLE: AT224-1A  
PRICE: \$2.59 ea. QTY (20)  
\$1.59 ea. QTY (100)

## Maximum Ratings

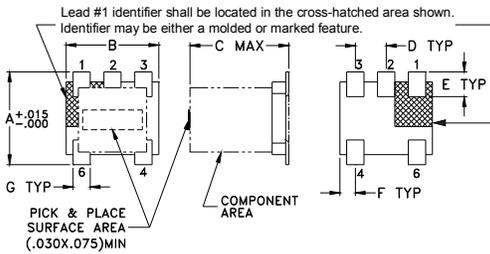
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.25 W
DC current	30mA

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

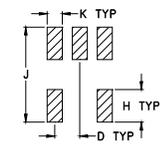
## Pin Connections

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

## Outline Drawing AT224-1A



## PCB Land Pattern



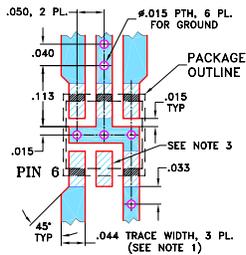
## Outline Dimensions (inch)

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	wt
.028	.065	.190	.030	grams
0.71	1.65	4.83	0.76	0.15

## Demo Board MCL P/N: TB-145 Suggested PCB Layout (PL-244)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015". COPPER: 1/2 OZ. ON EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.  
3. THIS PAD IS NOT REQUIRED FOR AT224 CASE STYLE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
  - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

## 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/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

## Features

- plastic base with solder plated leads
- excellent amplitude unbalance, 0.1dB typ. and phase unbalance, 0.5 deg. typ.

## Applications

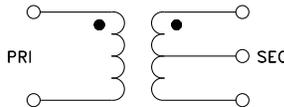
- impedance matching
- balanced amplifier

## Transformer Electrical Specifications

Ω RATIO (Secondary/Primary)	FREQUENCY (MHz)	INSERTION LOSS*		
		3 dB MHz	2 dB MHz	1 dB MHz
16	0.6-160	0.6-160	1.5-120	3-80

\* Insertion Loss is referenced to mid-band loss, 0.6 dB typ.

## Config. A



Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500
13"	1000, 2000

## Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)
0.60	1.40	14.15
1.00	1.16	17.14
1.50	0.99	19.51
5.00	0.64	29.93
10.00	0.59	36.06
50.00	0.74	16.77
80.00	0.94	12.74
100.00	1.10	10.87
120.00	1.31	9.38
160.00	1.83	7.18

