





SURFACE MOUNT

# RF Transformer

## TC2-1T+

TC2-1TX+  
Upgraded Version\*

Mini-Circuits

50Ω 3 to 300 MHz

- \*Addition of Top Hat® feature Benefits
  - Allows faster pick-and-place
  - Enables visual identification marking

### FEATURES

- Good return loss
- Excellent amplitude unbalance (0.5 dB typ) and phase unbalance (4 deg. typ) in 1 dB bandwidth
- Plastic base with leads
- Aqueous washable



Generic photo used for illustration purposes only

CASE STYLE: AT224-1

### +RoHS Compliant

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

### APPLICATIONS

- Impedance matching
- Balanced to unbalanced transformation
- Push-pull amplifier

### ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (secondary/primary)			2		
Frequency Range		3		300	MHz
Insertion Loss*	—		3		dB
	3-300		2		
Amplitude Unbalance	3-300		1		
Phase Unbalance	3-300		0.5		dB
			4		Degree

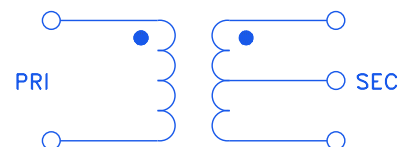
\* Insertion Loss is referenced to mid-band loss, 0.4 dB typ.

### MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-40°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.

### CONFIG. A



REV. H  
ECO-015303  
TC2-1T+  
MCL:NY  
230808



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Mini-Circuits

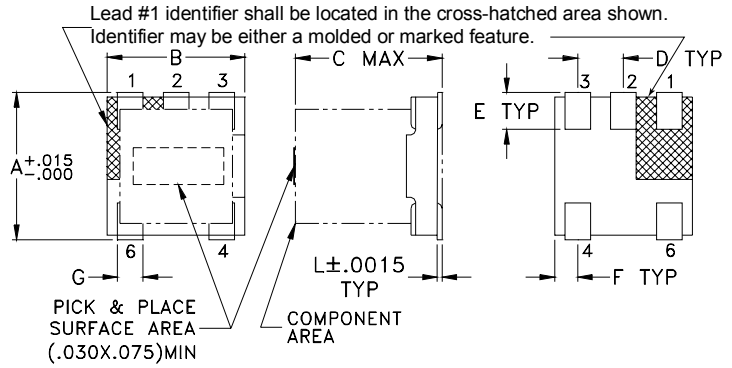
50Ω 3 to 300 MHz

### PIN CONNECTIONS

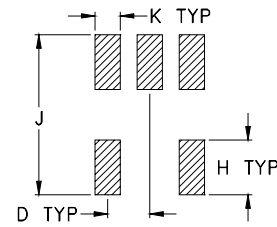
PRIMARY DOT	6
PRIMARY	4
SECONDARY DOT	1
SECONDARY	3
SECONDARY CT	2

PRODUCT MARKING: NA

### OUTLINE DRAWING



### PCB Land Pattern



Suggested Layout, Tolerance to be within ±.002

### OUTLINE DIMENSIONS (Inch mm)

A	B	C	D	E	F	G	H	J	K	L
.150	.150	.160	.050	.040	.025	.028	.065	.190	.030	.007
3.81	3.81	4.06	1.27	1.02	0.64	0.71	1.65	4.83	0.76	0.18

Weight: 0.15 grams

### TAPE & REEL INFORMATION: F17



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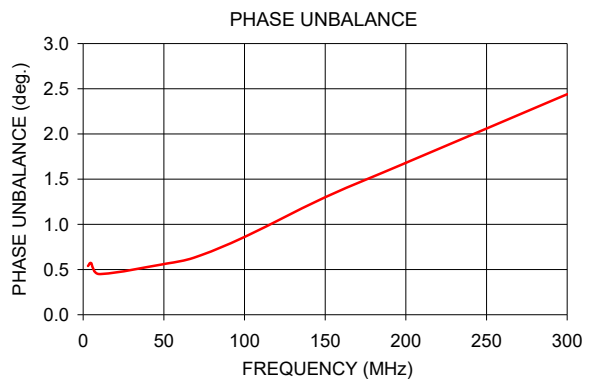
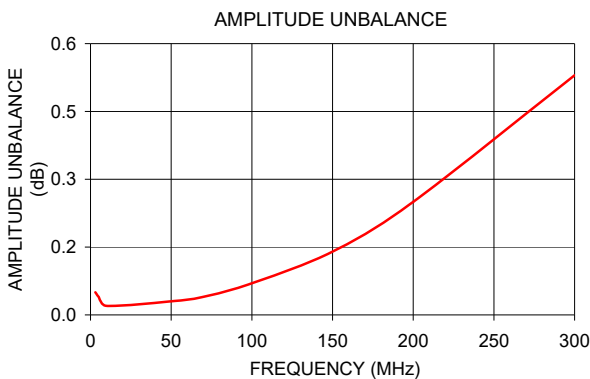
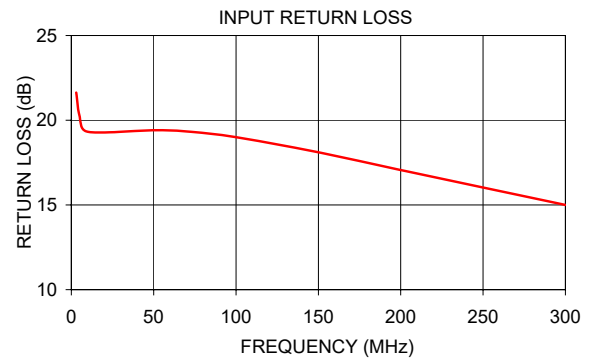
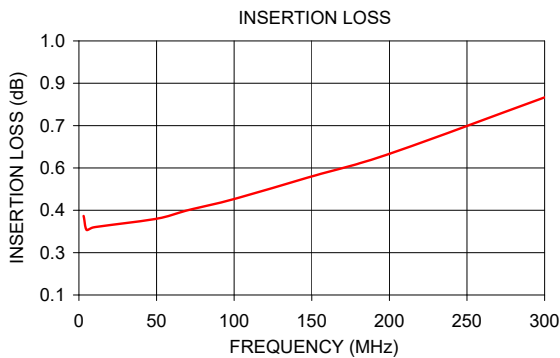
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3 to 300 MHz

### TYPICAL PERFORMANCE DATA

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
3.00	0.38	21.63	0.05	0.54
5.00	0.33	20.24	0.04	0.57
10.00	0.34	19.32	0.02	0.45
50.00	0.37	19.41	0.03	0.56
70.00	0.40	19.34	0.04	0.64
100.00	0.44	19.00	0.07	0.86
150.00	0.52	18.11	0.14	1.30
200.00	0.60	17.06	0.25	1.68
300.00	0.80	15.00	0.53	2.44




#### 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)



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