SURFACE MOUNT top hat

RF Transformer

TC1-6X+

50Ω 0.15 to 350 MHz

FEATURES

- Good return loss
- Usable over 0.05-400 MHz
- Excellent amplitude unbalance, 0.1 dB typ. and phase unbalance, 2 deg typ. in 1 dB bandwidth
- Plastic base with leads



Generic photo used for illustration purposes only

CASE STYLE: AT1521

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

APPLICATIONS

- Balanced to unbalanced transformation
- Push-pull amplifiers

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio			1		Ohm
Frequency Range		0.15		350	MHz
Insertion Loss*	0.15 - 350		3.0		dB
	0.25 - 250		2.0		
	0.3 - 125		1.0		

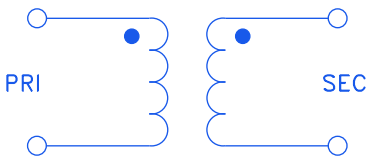
* Insertion Loss is referenced to mid-band loss, 0.2 dB typ.

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. C



REV. B
ECO-021763
TC1-6X+
MCL NY
240510

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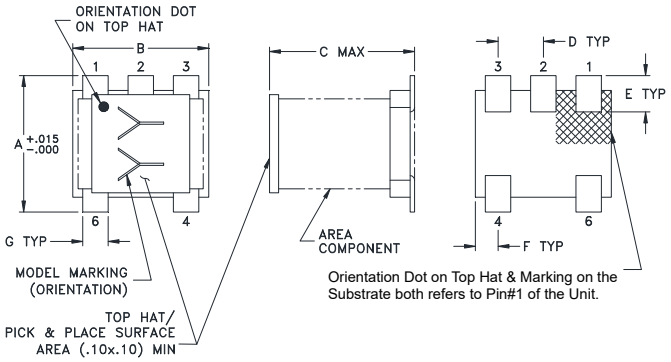
TC1-6X+

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PIN CONNECTIONS

Function	Pin Number
PRIMARY DOT	6
PRIMARY	4
SECONDARY DOT	1
SECONDARY	3
NOT USED	2

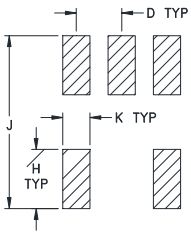
OUTLINE DRAWING



Top-hat total thickness: .013 inches MAX.

PRODUCT MARKING: CT

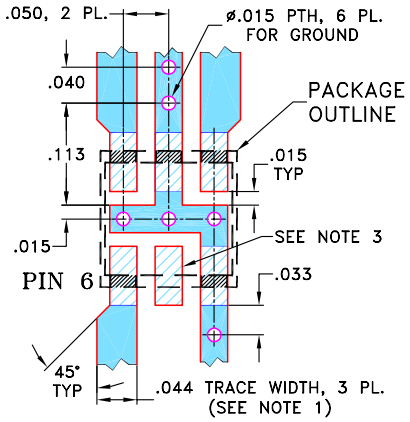
PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

DEMO BOARD MCL P/N: TB-145

SUGGESTED PCB LAYOUT (PL-244)



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

OUTLINE DIMENSIONS (Inch / mm)

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

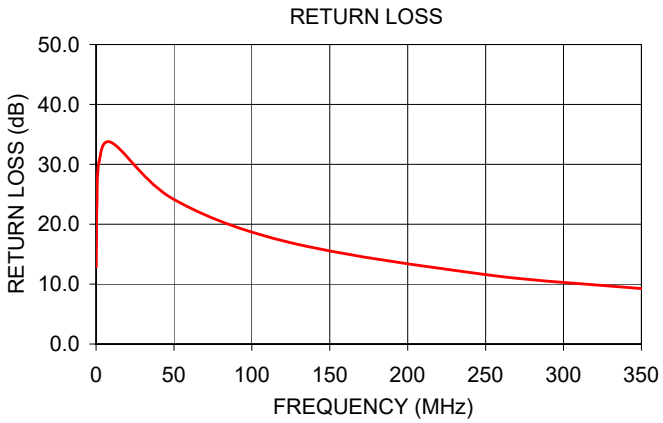
Weight: 0.15 grams

TAPE & REEL INFORMATION: F17

TYPICAL PERFORMANCE DATA

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)
0.15	0.73	12.89
0.25	0.61	16.56
0.30	0.57	17.77
0.50	0.44	23.21
2.00	0.31	30.49
10.00	0.26	33.62
50.00	0.35	24.13
125.00	0.61	16.90
250.00	1.31	11.59
350.00	2.16	9.26





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