top hat®

Surface Mount

RF Transformer

TC1-6X+

50Ω 0.15 to 350 MHz

Generic photo used for illustration purposes only

CASE STYLE: AT1521

+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

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

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 0.25 - 250 0.3 - 125		3.0 2.0 1.0		dB

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

Maximum Ratings

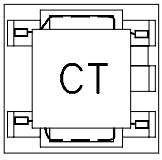
Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.25W
DC Current	30mA

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

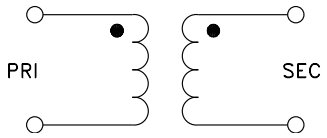
Pin Connections

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

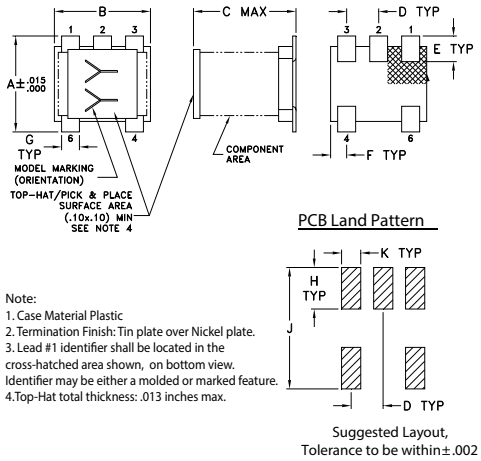
Product Marking



Config. C



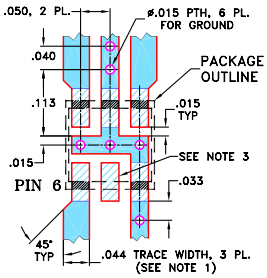
Outline Drawing



Note:
1. Case Material Plastic
2. Termination Finish: Tin plate over Nickel plate.
3. Lead #1 identifier shall be located in the cross-hatched area shown, on bottom view. Identifier may be either a molded or marked feature.
4.Top-Hat total thickness: .013 inches max.

Suggested Layout,
Tolerance to be within±.002

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



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELEC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. ON EACH SI FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODI
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 (SOLDE MASK OVER BARE COPPER)
DENOTES COPPER LAND PATTERN FREE OF SOLDER

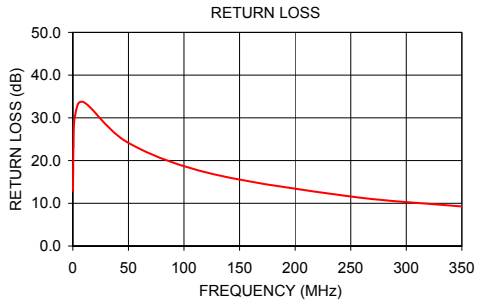
Outline Dimensions (inch / mm)

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

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



Additional 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

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