



Mini-Circuits

SURFACE MOUNT top hat

RF Transformer

TC1-15X+

50Ω 350 to 1500 MHz

FEATURES

- Wideband, 350 to 1500 MHz
- Balanced transmission line
- Good return loss
- Plastic base with leads
- Aqueous washable

*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

- PCS
- Cellular
- Impedance matching
- Balanced amplifier
- Baluns

ELECTRICAL SPECIFICATIONS AT +25°C

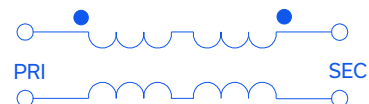
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio			1		Ohm
Frequency Range		350		1500	MHz
Insertion Loss*	—		3.0		dB
	350 - 1500		2.0		
	800 - 1500		1.0		

* Insertion Loss is referenced to mid-band loss, 0.35 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. G

REV. B
ECO-021735
TC1-15X+
MCL NY
240506



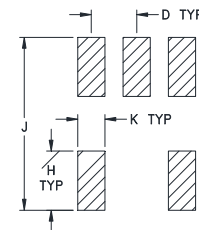


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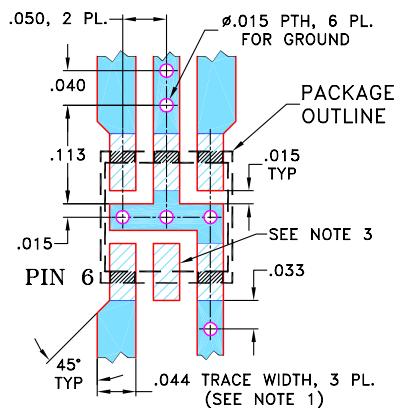
OUTLINE DRAWING

Figure 1: Dimensions of the Top Hat. The diagram shows a top view, a side view, and a cross-section view of the top hat. The top view includes dimensions A (+.015 / -.000), B, C MAX, D TYP, E TYP, F TYP, and G TYP. The side view shows the top hat's profile and the area component. The cross-section view shows the top hat's internal structure and the area component. The text "Orientation Dot on Top Hat & Marking on the Substrate both refers to Pin#1 of the Unit." is located below the diagrams.

PCB Land Pattern



DEMO BOARD MCL P/N: TB-145
SUGGESTED PCB LAYOUT: PL-244



1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" $\pm$.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



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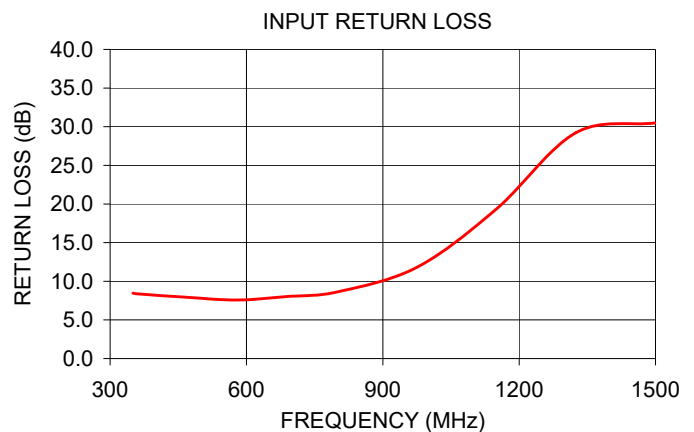
top hat[®]
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TYPICAL PERFORMANCE DATA

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)
350.00	0.46	8.47
360.00	0.56	8.38
470.00	0.71	7.92
580.00	0.86	7.58
690.00	0.59	8.03
800.00	0.60	8.62
975.00	0.48	11.81
1150.00	0.38	19.36
1325.00	0.43	29.22
1500.00	0.50	30.48



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/terms/viewterm.html

