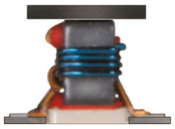
Surface Mount top hat®

RF Transformer

TCML1-11X+

50Ω 600 to 1100 MHz



CASE STYLE: DB1627

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

Maximum Ratings

Operating Temperature	-20°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

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

Features

- wideband, 600 to 1100 MHz
- balanced transmission line
- excellent amplitude unbalance. 0.6 dB typ.
- excellent phase unbalanced, 8 deg typ.
- plastic base with solder plated leads
- aqueous washable

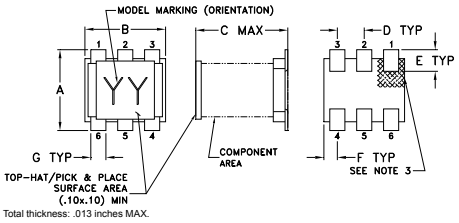
Applications

- cellular
- baluns
- impedance matching

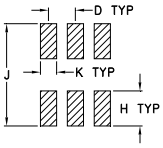
Available Tape and Reel at no extra cost

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

Outline Drawing



PCB Land Pattern



Suggested Layout,
Tolerance to be within .002

Outline Dimensions (inch / mm)

A	B	C	D	E	F
.160	.150	.160	.050	.040	.025
4.06	3.81	4.06	1.27	1.02	0.64

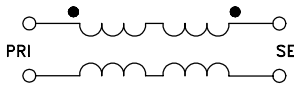
G	H	J	K		wt
.028	.065	.190	.030		grams
0.71	1.65	4.83	0.76		0.15

Electrical Specifications

Ω RATIO	FREQUENCY (MHz)	INSERTION LOSS*		
		3 dB MHz	2 dB MHz	1 dB MHz
1	600-1100	—	600-1100	700-1000

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

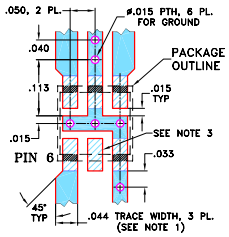
Config. G



Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)
600.00	0.70	11.42
700.00	0.50	13.14
800.00	0.35	16.75
825.00	0.45	18.23
850.00	0.44	19.80
875.00	0.34	22.25
900.00	0.37	25.70
1000.00	0.41	19.94
1100.00	0.71	12.88
1200.00	1.13	9.11

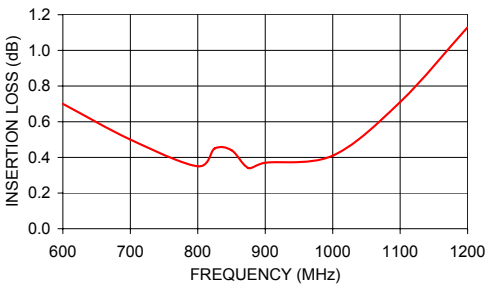
Demo Board MCL P/N: TB-145+
Suggested PCB Layout (PL-244)



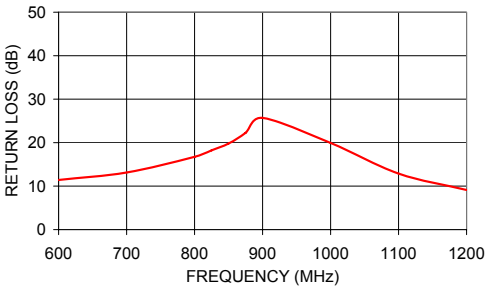
NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. ON EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. THIS PAD IS NOT REQUIRED FOR AT224 CASE STYLE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

INSERTION LOSS



INPUT RETURN LOSS



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