

Ceramic Balun RF Transformer

TCN2-45+

50Ω 3300 to 4500 MHz



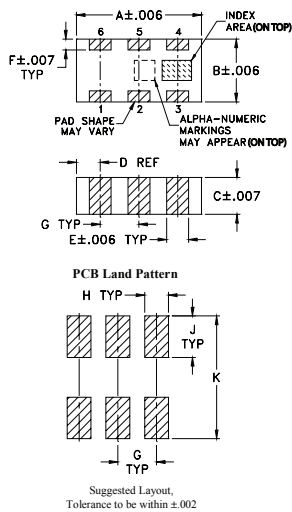
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Input RF Power**	5W
** From 85°C derate linearly to 2.5W at 100°C Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

PRIMARY DOT	1
PRIMARY (GND), SECONDARY CT	2,5
SECONDARY DOT	6
SECONDARY	4
NOT USED	3

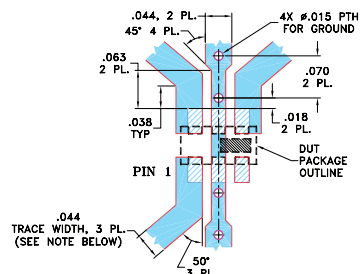
Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	
.126	.063	.035	.024	.022	.011	
3.20	1.60	0.89	0.61	0.56	0.28	
G	H	J	K			wt
.039	.024	.042	.123			grams
0.99	0.61	1.07	3.12			.020

Demo Board MCL P/N: TB-380 Suggested PCB Layout (PL-242)



- NOTE:**
- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
 - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
 - DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- wideband, 3300 to 4500 MHz
- miniature size, 0.12"x.06"x.037"
- LTCC construction
- low cost
- aqueous washable
- patent pending

Applications

- WIMAX

CASE STYLE: FV1206-1
PRICE: \$ 2.09 ea. QTY (20)
\$ 1.79 ea. QTY (100)

+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, 1000, 3000

Electrical Specifications (T_{AMB} = 25°C)

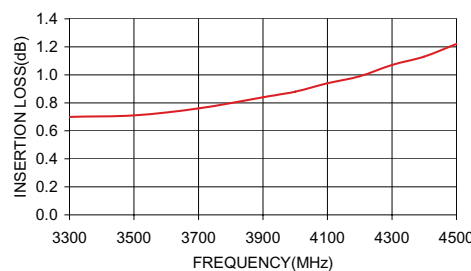
Ω RATIO (Secondary/Primary)	FREQUENCY (MHz)	INSERTION* LOSS (dB)	PHASE UNBALANCE† (Deg.) Typ.	AMPLITUDE UNBALANCE (dB) Typ.
2	3300-4500	1.5	5	1.0

* Insertion Loss is referenced to mid-band loss, 0.8 dB.
† Relative to 180°

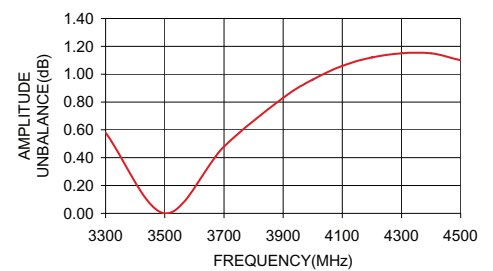
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
3300.00	0.70	18.85	0.58	7.07
3500.00	0.71	17.39	0.00	6.09
3700.00	0.76	16.15	0.48	5.03
3900.00	0.84	14.98	0.83	3.78
4000.00	0.88	14.34	0.96	3.08
4100.00	0.94	13.71	1.06	2.29
4200.00	0.99	13.05	1.12	1.44
4300.00	1.07	12.38	1.15	0.48
4400.00	1.13	11.76	1.15	0.62
4500.00	1.22	11.15	1.10	1.82

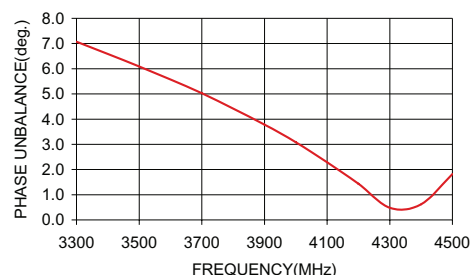
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INSERTION LOSS



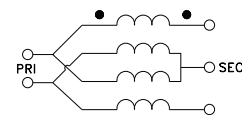
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AMPLITUDE UNBALANCE



TCN2-45+
PHASE UNBALANCE



configuration H



For detailed performance specs & shopping online see web site



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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp.

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