Ceramic Balun

RF Transformer

TCN4-13+

50Ω 650 to 1250 MHz

CASE STYLE: FV1206-1
PRICE: $ 1.99 ea. QTY (20)
$ 1.69 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

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

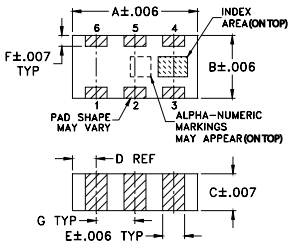
Features

- wideband, 650 to 1250 MHz
- miniature size, 0.12"x.06"x.037"
- LTCC construction
- low cost
- aqueous washable

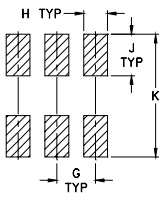
Applications

- WAN
- TACS
- AMPS
- NAMPS

Outline Drawing



PCB Land Pattern



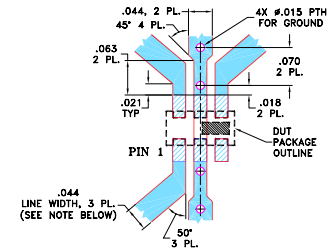
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

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-287
Suggested PCB Layout (PL-163)



NOTE:
1. 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.
2. 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

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

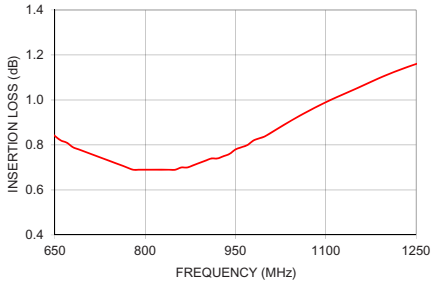
Ω RATIO (Secondary/Primary)	FREQUENCY (MHz)	INSERTION* LOSS (dB)	PHASE UNBALANCE † (Deg.) Typ.	AMPLITUDE UNBALANCE (dB) Typ.
4	**650-1250**	**1.0**	**8.0**	**0.7**
	800-900	0.5	3.0	0.4

* Insertion Loss is referenced to mid-band loss, 0.7 dB
† Relative to 180°

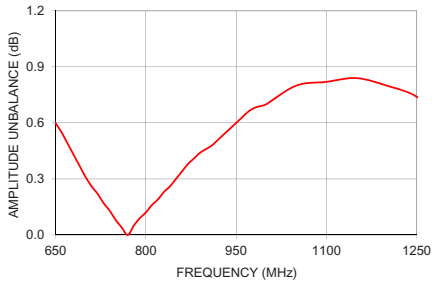
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
650.00	0.84	12.07	0.60	1.78
700.00	0.77	13.98	0.31	0.02
750.00	0.72	16.08	0.08	1.29
800.00	0.69	18.57	0.12	1.76
850.00	0.69	20.39	0.30	1.91
900.00	0.73	20.02	0.46	1.56
950.00	0.78	18.26	0.60	0.61
1000.00	0.84	16.14	0.70	0.40
1200.00	1.11	11.43	0.80	6.71
1250.00	1.16	10.83	0.74	8.33

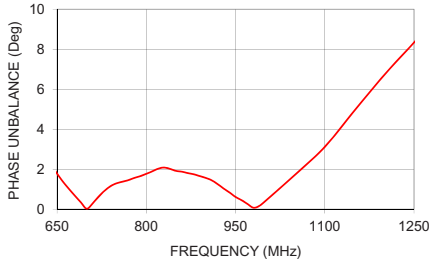
TCN4-13+
INSERTION LOSS



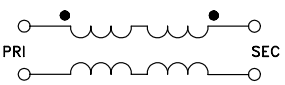
TCN4-13+
AMPLITUDE UNBALANCE



TCN4-13+
PHASE UNBALANCE



configuration G



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.
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