Ceramic Balun

RF Transformer

TCN2-122+

50Ω 600 to 1200 MHz



Generic photo used for illustration purposes only

CASE STYLE: FV1206-1

+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

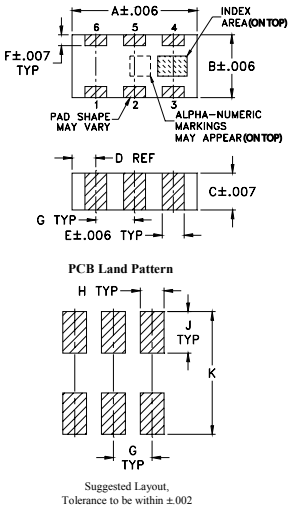
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Input RF Power	3W

Pad Connections

PRIMARY DOT (Unbalanced Port)	5
PRIMARY (GND)	4,6
SECONDARY DOT (Balanced)	3
SECONDARY (Balanced)	1
NO CONNECTION	2

Pads 1,3,4,6 are DC-connected internally

Outline Drawing



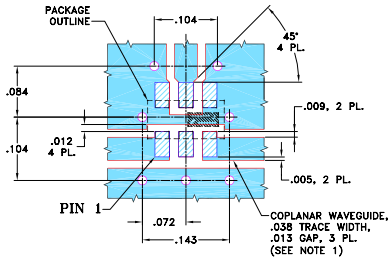
Suggested Layout, Tolerance to be within ±.002

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-417+
Suggested PCB Layout (PL-265)



NOTES:

1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP 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

Features

- wideband, 600 to 1200 MHz
- low phase unbalance, 4 deg. typ. and amplitude unbalance, 0.3 dB typ.
- miniature size, 0.12"x.06"x.037"
- LTCC construction
- low cost
- aqueous washable

Applications

- GSM
- WCDMA
- ISM

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

Ω RATIO (Secondary/Primary)	FREQUENCY (MHz)	INSERTION* LOSS (dB)	PHASE UNBALANCE† (Deg.) Typ.	AMPLITUDE UNBALANCE (dB) Typ.
2	600-1200	1.0	4	0.3

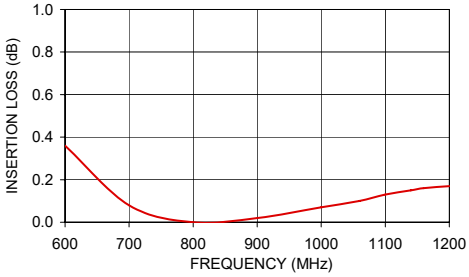
* Insertion Loss is referenced to mid-band loss, 0.7 dB. Reference Demo Board TB-417+
† Relative to 180°

Typical Performance Data at 25°C**

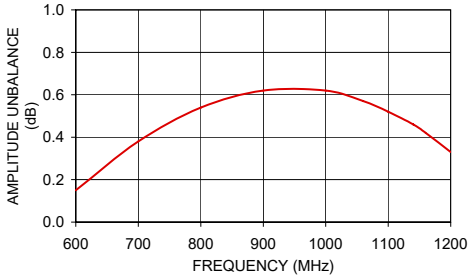
FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
600.00	0.36	11.90	0.15	7.52
700.00	0.08	17.72	0.38	6.76
800.00	0.00	27.57	0.54	5.17
900.00	0.02	27.76	0.62	3.01
1000.00	0.07	21.96	0.62	0.30
1060.00	0.10	20.45	0.57	1.40
1100.00	0.13	19.81	0.52	2.79
1140.00	0.15	19.40	0.46	4.01
1160.00	0.16	19.32	0.42	4.66
1200.00	0.17	19.29	0.33	6.10

** Measured with Agilent E5071B network analyzer using impedance conversion and port extension.

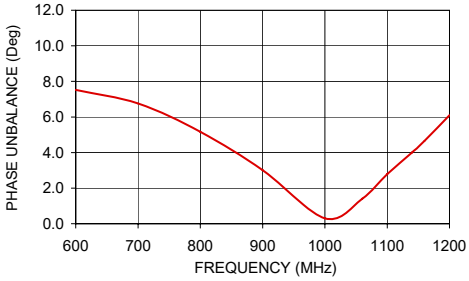
TCN2-122+
INSERTION LOSS



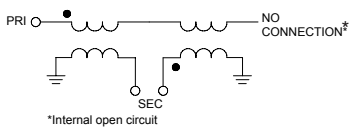
TCN2-122+
AMPLITUDE UNBALANCE



TCN2-122+
PHASE UNBALANCE



configuration J



*Internal open circuit

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.
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