Ceramic Balun

RF Transformer

50Ω 1200 to 2200 MHz

TCN4-22+
TCN4-22

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	2
PRIMARY(GND)	1,3
SECONDARY DOT	4
SECONDARY	6
GROUND	5

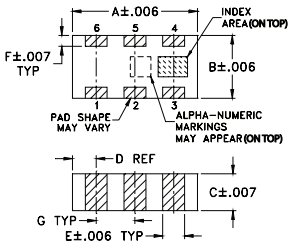
Features

- wideband, 1200 to 2200 MHz
- low phase unbalance
- miniature size, 0.12"x.06"x.037"
- LTCC construction
- low cost
- aqueous washable

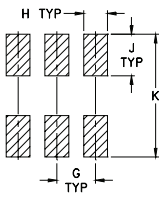
Applications

- GSM
- CDMA
- GPS
- DECT
- PCN
- PCS
- ISM

Outline Drawing



PCB Land Pattern



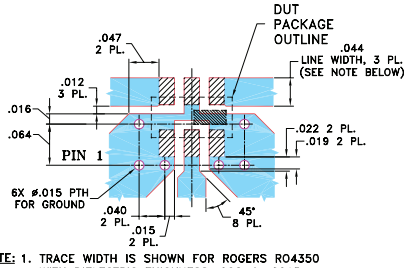
Suggested Layout,
Tolerance to be within ±.002

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-298
Suggested PCB Layout (PL-162)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350 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

DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

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

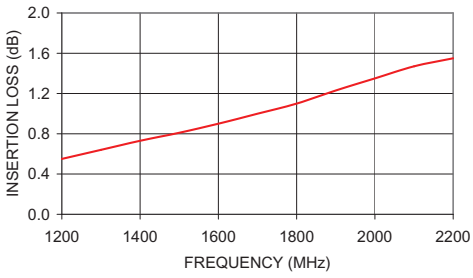
Ω RATIO (Secondary/Primary)	FREQUENCY (MHz)	INSERTION* LOSS (dB)	PHASE UNBALANCE † (Deg.) Typ.	AMPLITUDE UNBALANCE (dB) Typ.
4	1200-2200	1.0	10	0.6

* Insertion Loss is referenced to mid-band loss, 0.9 dB
† Relative to 180º

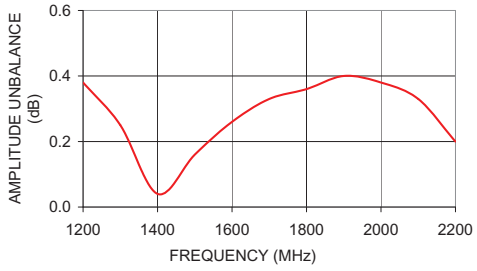
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
1200.00	0.55	12.54	0.38	13.12
1300.00	0.64	13.68	0.25	13.07
1400.00	0.73	14.80	0.04	12.32
1500.00	0.81	15.52	0.16	10.86
1600.00	0.90	15.33	0.26	8.60
1700.00	1.00	14.39	0.33	5.70
1800.00	1.10	13.02	0.36	2.10
1900.00	1.23	11.67	0.40	1.87
2000.00	1.35	10.47	0.38	6.35
2100.00	1.47	9.46	0.33	10.89
2200.00	1.55	8.60	0.20	15.55

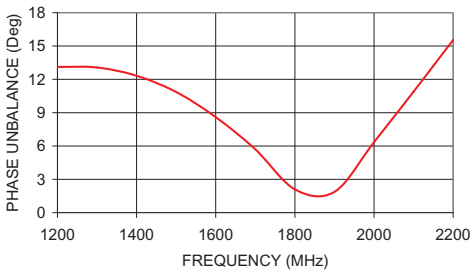
TCN4-22
INSERTION LOSS



TCN4-22
AMPLITUDE UNBALANCE



TCN4-22
PHASE UNBALANCE



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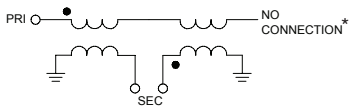

*Internal Open Circuit

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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