

Ceramic Balun RF Transformer

50Ω 1200 to 2200 MHz

TCN4-22+
TCN4-22



Maximum Ratings

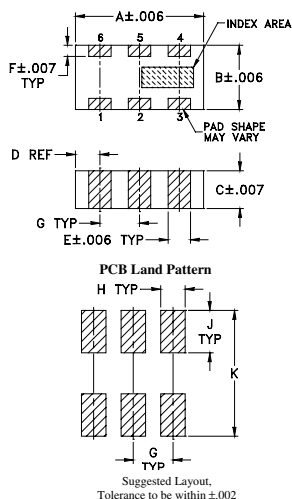
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Input RF Power**	5W

**From 85°C derate linearly to 2.5 W at 100°C

Pin Connections

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

Outline Drawing

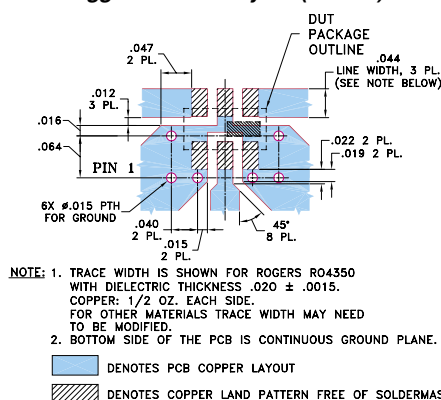


Outline Dimensions (inch)

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		
.039	.024	.042	.123		
0.99	0.61	1.07	3.12		
				wt	
				grams	
				.020	

Demo Board MCL P/N: TB-298

Suggested PCB Layout (PL-162)



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

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

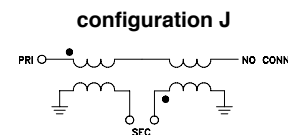
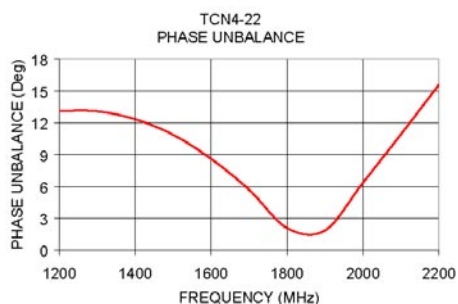
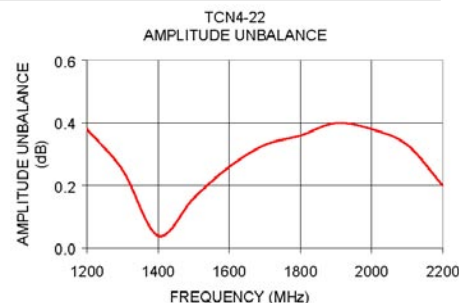
Ω RATIO (Secondary/Primary)	FREQUENCY (MHz)	INSERTION* LOSS (dB)	PHASE UNBALANCE † (Deg.) Typ.	AMPLITUDE UNBALANCE (dB) Typ.
4	1200-2200	1.0	10	0.6

* Insertion Loss is referenced to mid-band loss, 0.9 dB

† Relative to 180°

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



Mini-Circuits®
ISO 9001 ISO 14001 CERTIFIED

ALL NEW
minicircuits.com

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS

REV. B
M102713
TCN4-22
ED-11659/1
AD/RS/CP/AM
080114