

Ceramic Balun RF Transformer

50Ω 1300 to 2300 MHz

TCN1-23+
TCN1-23



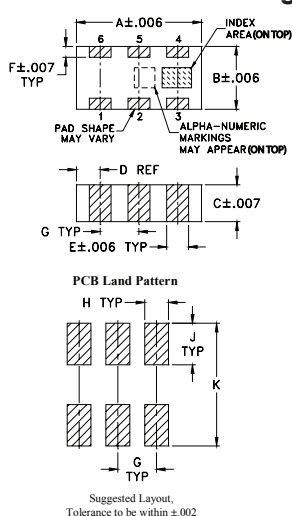
Maximum Ratings

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

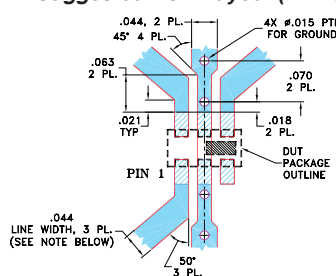
Outline Drawing



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-287 Suggested PCB Layout (PL-163)



- 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.
- Legend:
- Denotes PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).
 - Denotes COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- wideband, 1300 to 2300 MHz
- miniature size, 0.12"x.06"x.037"
- LTCC construction
- low cost
- aqueous washable

Applications

- DECT
- PCS
- PHS
- PDS
- PDC

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

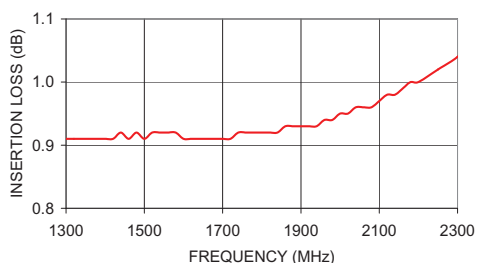
Ω RATIO	FREQUENCY (MHz)	INSERTION* LOSS (dB)	PHASE UNBALANCE † (Deg.) Typ.	AMPLITUDE UNBALANCE (dB) Typ.
1	1300-2300	0.7	5.0	0.7
	1800-2000	0.6	4.0	0.5

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

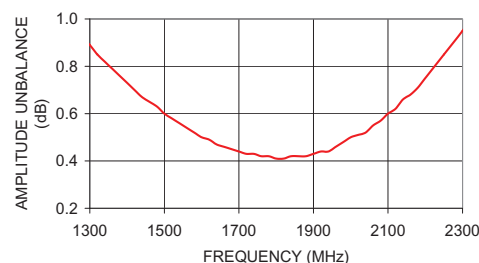
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
1300.00	0.91	15.33	0.89	1.52
1500.00	0.91	16.32	0.60	1.46
1600.00	0.91	17.14	0.50	1.81
1700.00	0.91	18.31	0.44	2.34
1800.00	0.92	19.68	0.41	3.09
1900.00	0.93	21.20	0.43	3.82
2000.00	0.95	22.85	0.50	4.57
2100.00	0.97	24.40	0.60	5.34
2200.00	1.00	25.70	0.75	6.05
2300.00	1.04	26.43	0.95	6.61

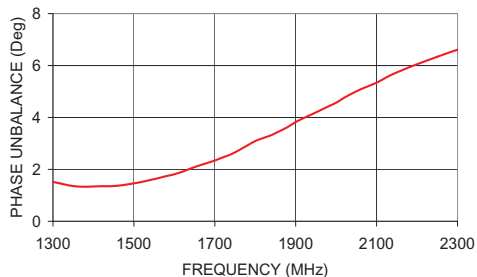
TCN1-23
INSERTION LOSS



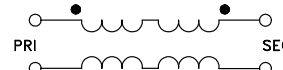
TCN1-23
AMPLITUDE UNBALANCE



TCN1-23
PHASE UNBALANCE



configuration G



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