

# Ceramic RF Transformer

50Ω 680 to 1050 MHz

**New!** **TCN1-10+**  
**TCN1-10**



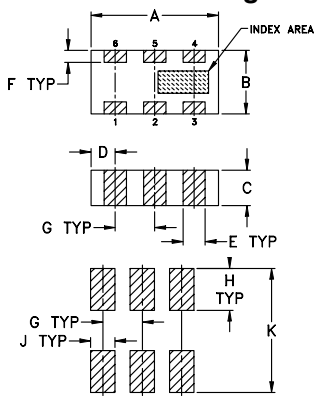
## Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Input RF Power**	5W
** derate linearly to 2.5 W at 100°C	

## Pin Connections

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

## Outline Drawing



SUGGESTED LAYOUT FOR PCB PATTERN  
PATTERN TO BE WITHIN ±.002

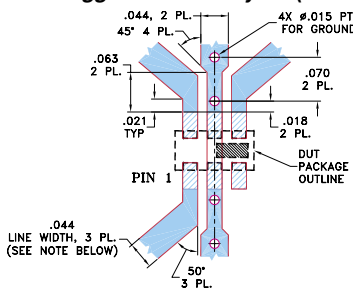
TOLERANCE UNLESS OTHERWISE STATED

2 PLACE DECIMALS: ±.01  
3 PLACE DECIMALS: ±.005

## Outline Dimensions (inch)

A	B	C	D	E	F	
.126	.063	.037	.024	.022	.012	
3.20	1.60	0.94	0.61	0.56	0.30	
G	H	J	K		wt	
.039	.042	.024	.123		grams	
0.99	1.07	0.61	3.12		.020	

## Demo Board MCL P/N: TB-287 Suggested PCB Layout (PL-163)



NOTE: 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. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

## Features

- wideband, 680 to 1050 MHz
- miniature size .12"x.06"x.035
- LTCC construction
- low cost

## Applications

- TDMA, CDMA
- GSM
- PDC
- WAN
- TACS
- AMPS, NAMPS

## Electrical Specifications (T<sub>AMB</sub> = 25°C)

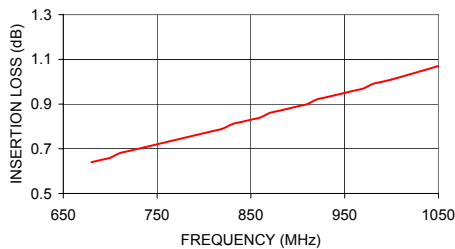
Ω RATIO	FREQUENCY (MHz)	INSERTION* LOSS (dB)	PHASE UNBALANCE (Deg.) Typ.	AMPLITUDE UNBALANCE (dB) Typ.
1	680-1050	0.9	4.0	0.7
	800-900	0.7	1.0	0.25

\* Insertion Loss is referenced to mid-band loss, 0.6 dB

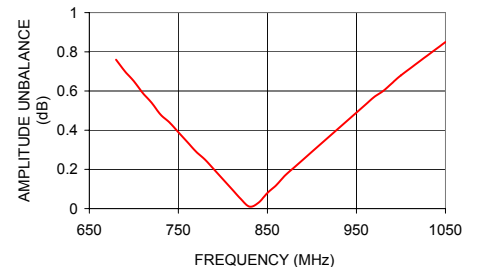
## Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (deg.)
680.00	0.64	14.50	0.76	6.82
700.00	0.66	14.07	0.65	5.94
750.00	0.72	13.10	0.39	3.94
800.00	0.77	12.43	0.15	2.29
850.00	0.83	11.83	0.08	0.97
900.00	0.89	11.36	0.29	0.23
950.00	0.95	10.99	0.49	1.01
990.00	1.00	10.71	0.64	1.48
1000.00	1.01	10.64	0.68	1.54
1050.00	1.07	10.39	0.85	1.78

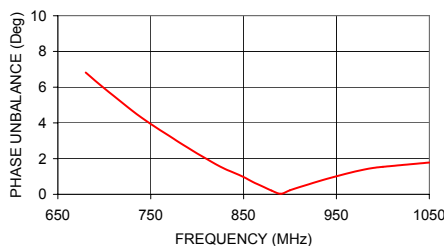
TCN1-10  
INSERTION LOSS



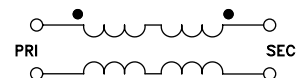
TCN1-10  
AMPLITUDE UNBALANCE



TCN1-10  
PHASE UNBALANCE



configuration G



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