

# Surface Mount RF Transformer

## TCM2-63WX+

50Ω 30 to 6000 MHz

### Features

- wide bandwidth 20 to 4000 MHz
- balanced transmission line
- excellent CMRR
- aqueous washable

### Applications

- PCS
- wideband push-pull amplifiers
- cellular



Generic photo used for illustration purposes only

CASE STYLE: DB1627

**+RoHS Compliant**

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

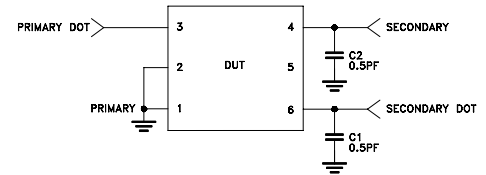
Available Tape and Reel at no extra cost	
Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500
13"	1000, 2000

### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio ( <i>secondary/primary</i> )			2		
Frequency Range		30		6000	MHz
Average Insertion Loss*	100-4000	—	0.9	1.9	dB
	30-5000	—	1.5	2.9	
Phase Unbalance (±)	5000-6000	—	2.5	3.9	Degree
	100-4500	—	4	—	
Amplitude Unbalance (±)	30-6000	—	5	—	dB
	100-4500	—	0.4	—	
Common Mode Rejection	30-6000	—	0.5	—	dB
	100-4500	18	25	—	
	30-6000	15	20	—	

\*Average Insertion Loss is referenced to mid-band loss 0.9 dB.

### Electrical Schematic



### Maximum Ratings

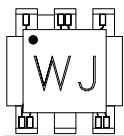
Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.4W
DC Current	30mA

Permanent damage may occur if any of these limits are exceeded.

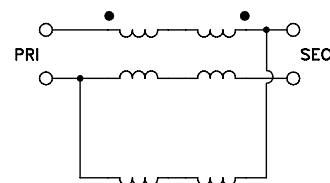
### Pin Connections

Function	Pin Number
PRIMARY DOT	3
PRIMARY	1,2
SECONDARY DOT	6
SECONDARY	4
GND	1,2
NOT USED	5

### Product Marking

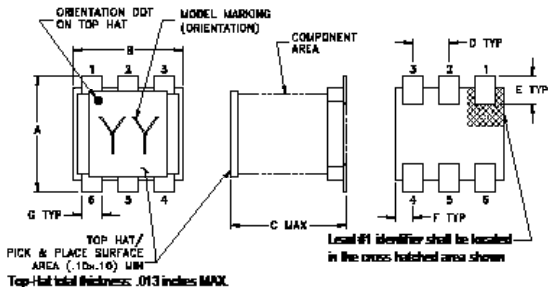


### Config. K



# TCM2-63WX+

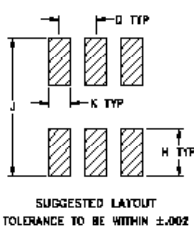
## Outline Drawing



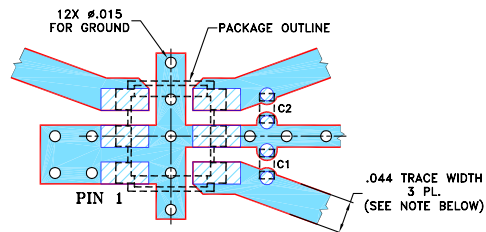
## Outline Dimensions (inch/mm)

A	B	C	D	E	F
.160	.150	.160	.050	.040	.025
4.06	3.81	4.06	1.27	1.02	0.64
G	H	J	K		wt
.028	.065	.190	.030		grams
0.71	1.65	4.83	0.76		0.15

## PCB Land Pattern



Demo Board MCL P/N: TB-676+  
Suggested PCB Layout (PL-380)



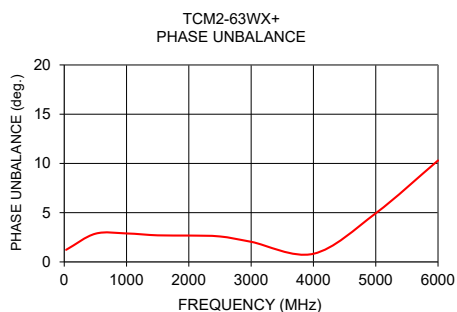
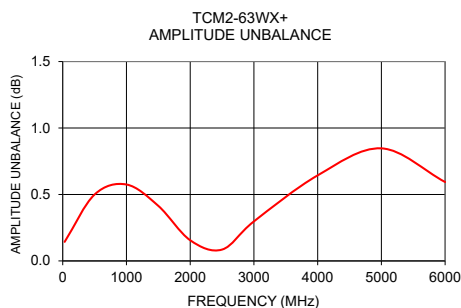
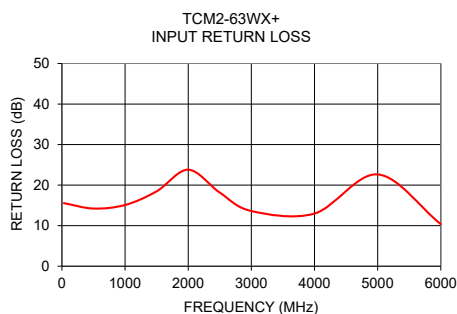
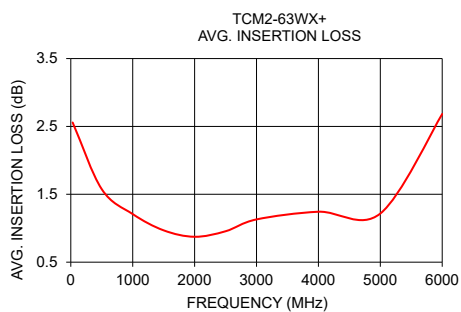
COMPONENT	SIZE
C1, C2	0402

- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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.  
3. CHIP COMPONENT FOOT PRINTS SHOWN FOR REFERENCE. FOR COMPONENT VALUES REFER TO TB-676+.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

## Typical Performance Data

Frequency (MHz)	Avg. Insertion Loss (dB)	Input R. Loss (dB)	Amplitude Unbalance (dB)	Phase Unbalance (Deg.)	CMRR (dB)
30	2.56	15.56	0.14	1.23	37.38
500	1.58	14.22	0.50	2.86	28.38
1000	1.21	15.10	0.57	2.89	27.62
1500	0.97	18.46	0.41	2.70	29.50
2000	0.87	23.81	0.16	2.68	32.03
2500	0.96	18.16	0.09	2.59	32.73
3000	1.13	13.61	0.30	2.04	32.14
4000	1.24	12.99	0.64	0.83	28.47
5000	1.22	22.65	0.85	4.94	23.73
6000	2.68	10.37	0.59	10.30	20.32



## Additional 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.  
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.  
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