

Surface Mount  **RF Transformer**

**TCM1-63AX+**

50Ω 10 to 6000 MHz

**Features**

- ultra wide bandwidth 10 to 6000 MHz
- one model covers all telecommunication bands
- flat insertion loss
- good return loss
- aqueous washable

**Applications**

- differential modulator/demodulator and active mixers
- wideband push-pull amplifiers
- LTE, Cellular, PCS, UMTS, WiFi, WiMAX



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

Reel Size	Available Tape and Reel at no extra cost 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			1		
Frequency Range		10		6000	MHz
Insertion Loss	10-6000	—	1.3	2.5	dB
Amplitude Unbalance	10-6000	—	0.5	—	dB
Phase Unbalance	10-6000	—	8	—	Degree

**Maximum Ratings**

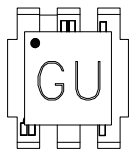
Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.2W
DC Current	30mA

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

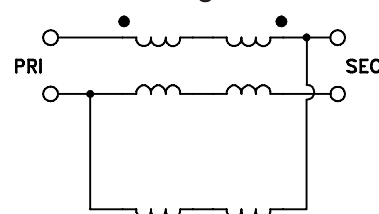
**Pin Connections**

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

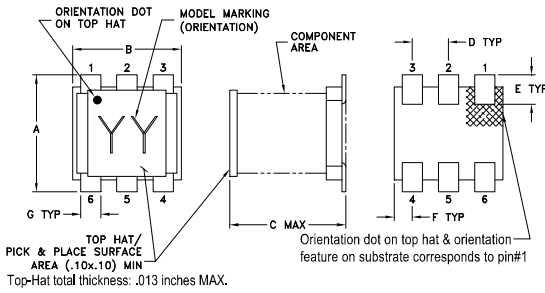
**Product Marking**



**Config. K**



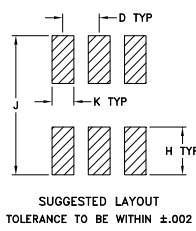
## Outline Drawing



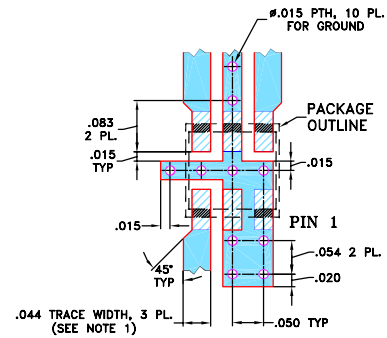
## Outline Dimensions (inch/mm)

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



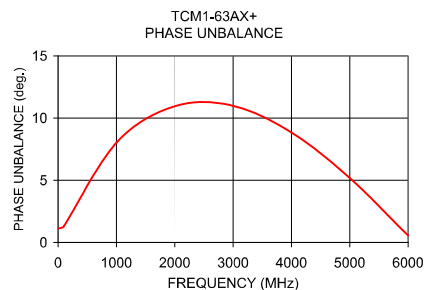
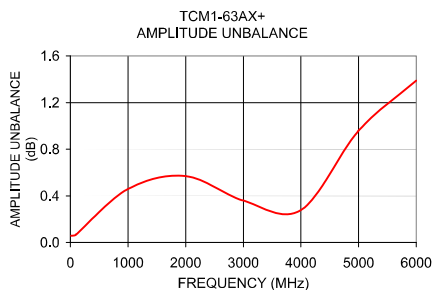
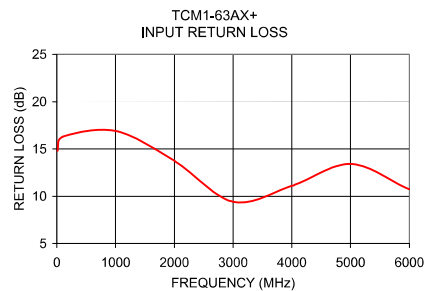
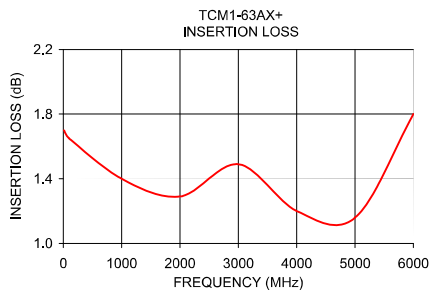
## Demo Board MCL P/N: TB-654+ Suggested PCB Layout (PL-364)



- NOTES:**
- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. ON EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
  - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
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## Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Input R. Loss (dB)	Amplitude Unbalance (dB)	Phase Unbalance (Deg.)
10	1.70	14.78	0.06	1.15
100	1.65	16.28	0.07	1.32
500	1.57	16.68	0.26	5.05
1000	1.40	16.90	0.46	8.03
1500	1.29	15.98	0.52	9.87
2000	1.29	13.74	0.57	10.96
3000	1.49	9.42	0.36	10.99
4000	1.20	11.09	0.28	8.84
5000	1.16	13.40	0.96	5.19
6000	1.80	10.73	1.39	0.57



## Additional Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
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