SURFACE MOUNT top hat

RF Transformer

TCM1-63AX-2+

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
- Protected by US Patent 9,071,229 B1

Generic photo used for illustration purposes only

CASE STYLE: DB1627

+RoHS Compliant
The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- Differential Modulator/Demodulator and Active Mixers
- Wideband Push-Pull Amplifiers
- LTE, Cellular, PCS, UMTS, WiFi, WiMAX
- Used with Analog Devices ADL5380, ADL5801/02

ELECTRICAL SPECIFICATIONS AT +25°C

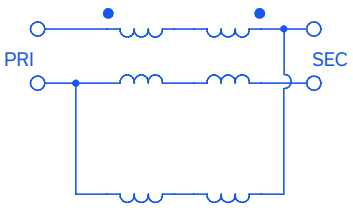
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Impedance Ratio			1		
Frequency Range		10		6000	MHz
Insertion Loss	10 - 6000		1.3	2.5	dB
Amplitude Unbalance	10 - 6000		0.5		dB
Phase Unbalance	10 - 6000		8		Degree

ABSOLUTE MAXIMUM RATINGS

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

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

CONFIGURATION K



REV. A
ECO-025163
TCM1-63AX-2+
MCL NY
250408

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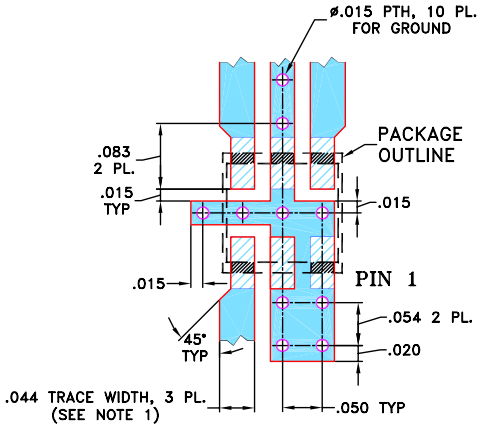
PIN CONNECTIONS

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

PRODUCT MARKING: GU

DEMOBOARD MCL P/N: TB-TCM1-63AX-2+

SUGGESTED PCB LAYOUT (PL-364)



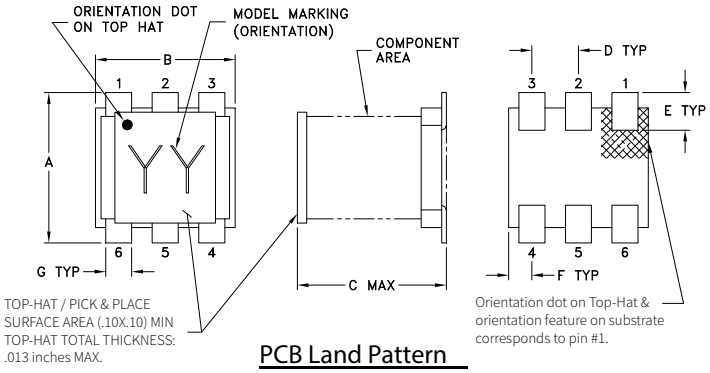
NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. ON EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

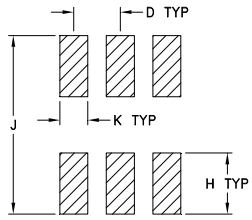
OUTLINE DRAWING



TOP-HAT / PICK & PLACE SURFACE AREA (.10X.10) MIN
TOP-HAT TOTAL THICKNESS: .013 inches MAX.

Orientation dot on Top-Hat & orientation feature on substrate corresponds to pin #1.

PCB Land Pattern



SUGGESTED LAYOUT
TOLERANCE TO BE WITHIN ±.002

OUTLINE DIMENSIONS (Inches / 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

TAPE & REEL INFORMATION: F47

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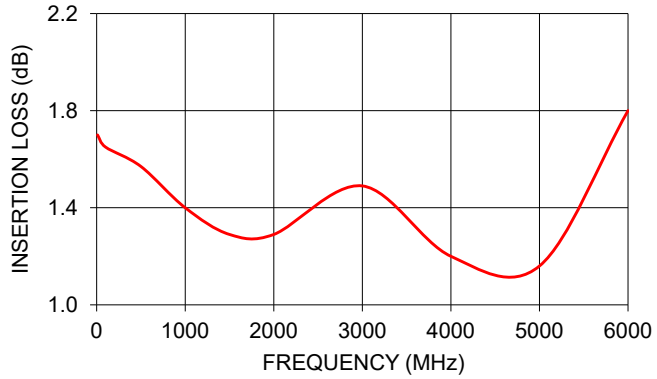
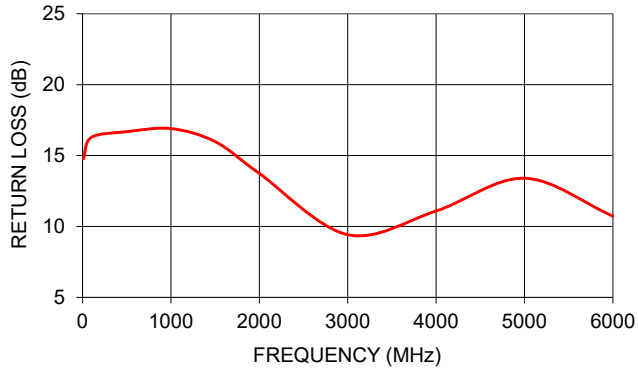
TYPICAL PERFORMANCE DATA

Frequency (MHz)	Insertion Loss (dB)	Input Return 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

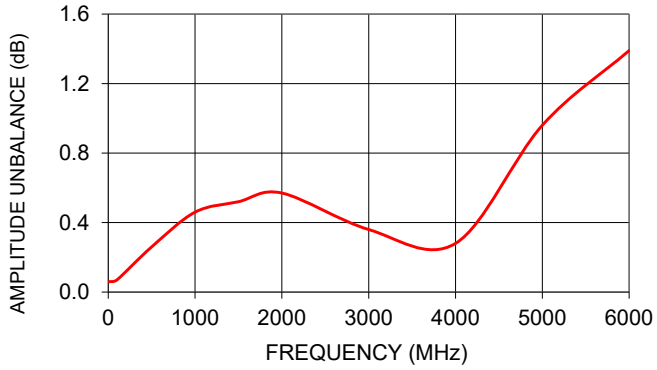
TCM1-63AX-2+
INSERTION LOSS



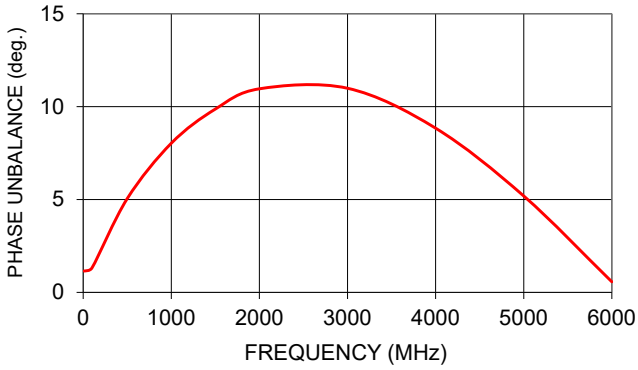
TCM1-63AX-2+
INPUT RETURN LOSS



TCM1-63AX-2+
AMPLITUDE UNBALANCE



TCM1-63AX-2+
PHASE UNBALANCE



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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