



Mini-Circuits®

SURFACE MOUNT 

RF Transformer

TCM2-33WX-7+

50Ω

10 to 3000 MHz

FEATURES

- Wide bandwidth, 10 to 3000 MHz
- Balanced transmission line
- Excellent return loss
- Aqueous washable
- Patent pending

*Generic photo used for illustration purposes only*

CASE STYLE: DB1627

APPLICATIONS

- PCS
- Wideband push-pull amplifiers
- Cellular

+RoHS Compliant

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

ELECTRICAL SPECIFICATIONS AT 25°C

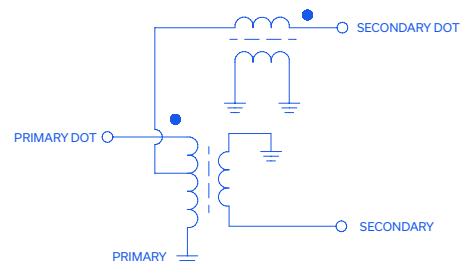
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Impedance Ratio (secondary/primary)		2			Ohm
Frequency Range		10		3000	MHz
Insertion Loss*	10-3000	—	1.5	3.0	dB
Amplitude Unbalance	10-3000	—	0.7	—	dB
Phase Unbalance	10-3000	—	4	—	Degree

* Insertion Loss is referenced to mid-band loss, 0.8 dB typ.

MAXIMUM RATINGS

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

CONFIGURATION N

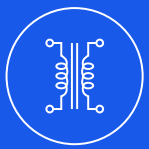


REV. OR
NPO-003196
TCM2-33WX-7+
IG/CP/AM
221107

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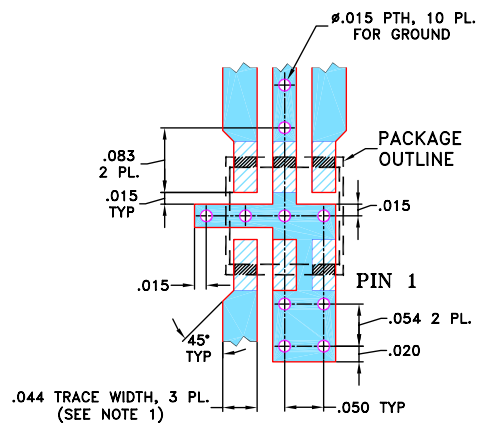
10 to 3000 MHz

PAD CONNECTIONS

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

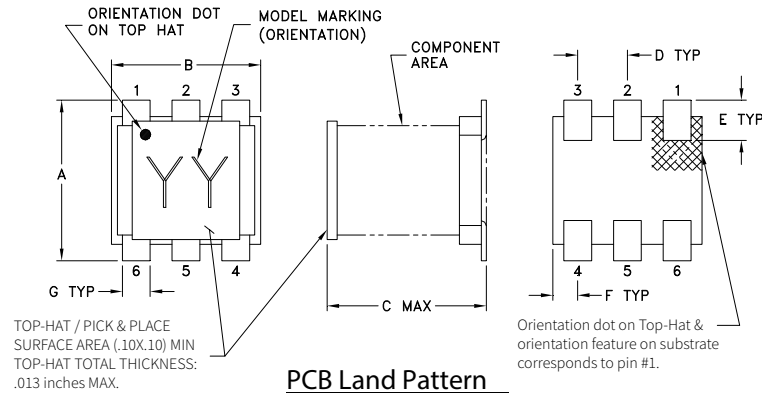
PRODUCT MARKING: GT

DEMOBOARD MCL P/N: TB-TCM2-33WX+
SUGGESTED PCB LAYOUT (PL-364)

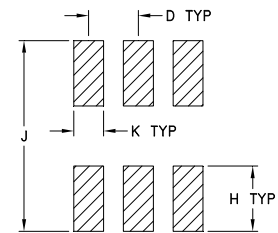


- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. ON EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
-  DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
-  DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

OUTLINE DRAWING



PCB Land Pattern

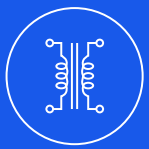


SUGGESTED LAYOUT
TOLERANCE TO BE WITHIN ±.002

OUTLINE DIMENSIONS (Inches)

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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top hat[®]
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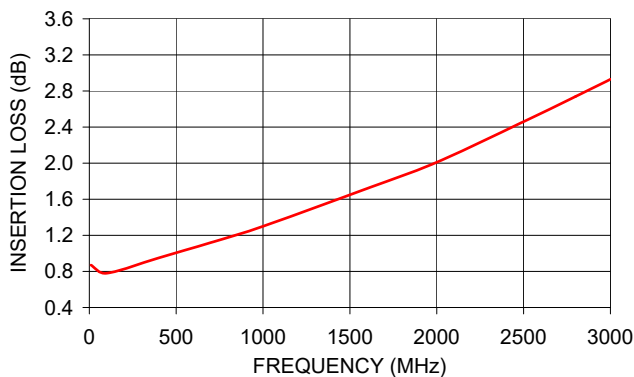
50Ω

10 to 3000 MHz

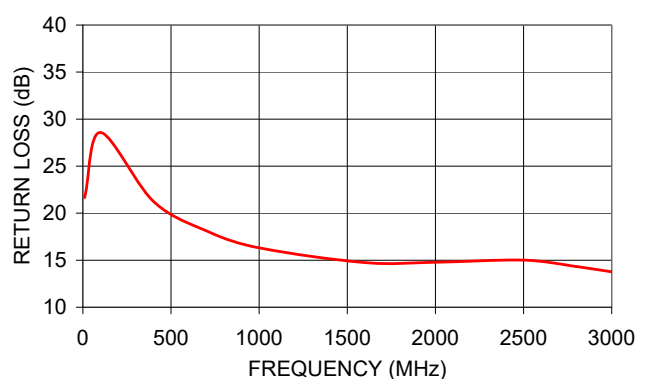
TYPICAL PERFORMANCE DATA

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Amplitude Unbalance (dB)	Phase Unbalance (deg)
10	0.87	21.66	0.03	0.01
100	0.78	28.58	0.03	0.04
400	0.95	21.26	0.05	0.82
700	1.12	18.13	0.12	0.83
1000	1.30	16.31	0.26	0.62
1600	1.72	14.75	0.74	1.70
2000	2.01	14.79	0.90	2.62
2500	2.46	15.01	0.79	1.26
2800	2.74	14.33	0.64	0.80
3000	2.93	13.77	0.54	1.09

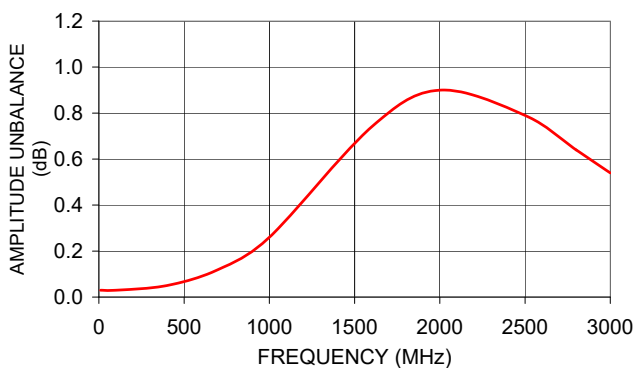
TCM2-33WX+
INSERTION LOSS



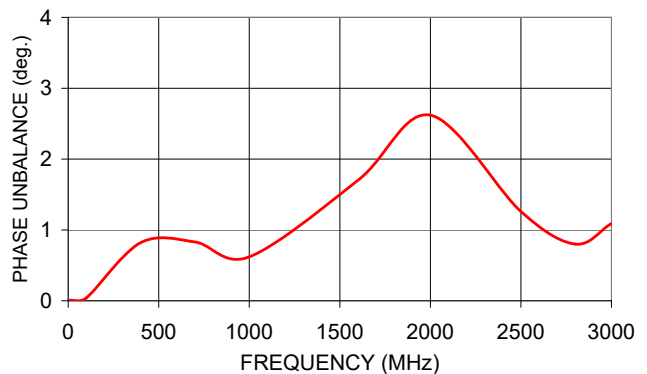
TCM2-33WX+
INPUT RETURN LOSS



AMPLITUDE UNBALANCE



PHASE UNBALANCE



- 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-Circuit's applicable established test performance criteria and measurement instructions.
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