CERAMIC BALUN

RF Transformer

TCW1-6000+

50Ω 3200 to 6000 MHz 1:1 Ratio

FEATURES

- Wideband, 3200 to 6000 MHz
- Miniature size 0603 (1.6x0.8mm)
- LTCC construction
- Low cost
- Aqueous washable



Generic photo used for illustration purposes only

CASE STYLE: JC0603C

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

APPLICATIONS

- WLAN
- A/D conversion
- WiFi
- Transmitters and receivers
- Cellular

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio			1		
Frequency Range		3200	—	6000	MHz
Avg. Insertion Loss[1]	3200 - 6000	—	1.1	2.0	dB
Amplitude Unbalance	3200 - 6000	—	1.5	2.2	dB
Phase Unbalance[2]	3200 - 6000	—	10	13	Degree

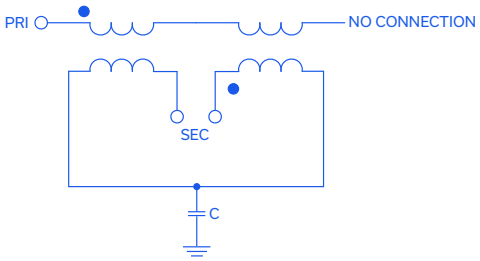
1. Reference demo board TB-912+.
2. Relative to 180°

MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power[3]	0.5W

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

CONFIGURATION R



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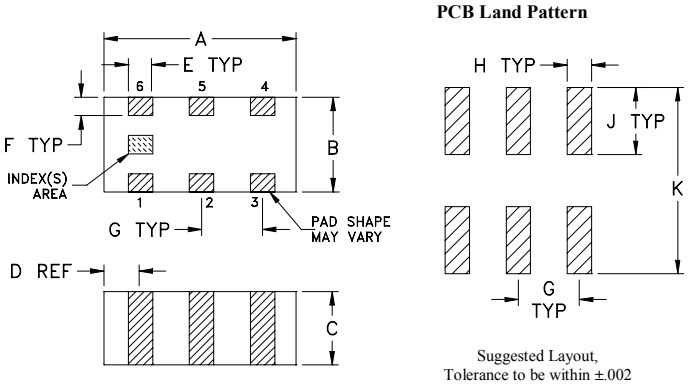
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PAD CONNECTIONS

PRIMARY DOT (Unbalanced Port)	1
GND or DC feed + RF	2
SECONDARY DOT (Balanced)	3
SECONDARY (Balanced)	4
NO CONNECTION	6
GND	5

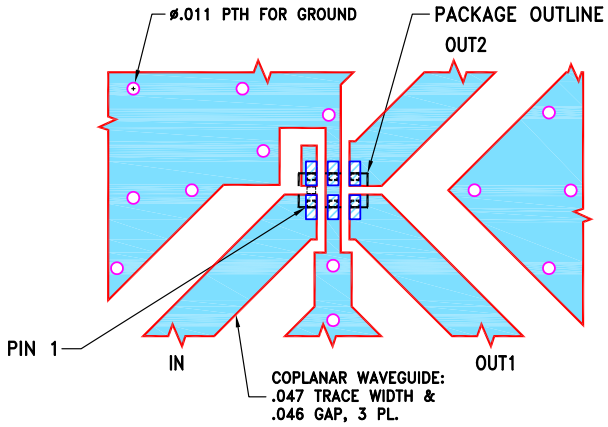
OUTLINE DRAWING



PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-912+

SUGGESTED PCB LAYOUT (PL-574)



NOTES:

1. TRACE WIDTH & GAP PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020±.0015. COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP 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 DIMENSIONS (Inches / mm)

A	B	C	D	E	F
.063	.031	.024	.012	.008	.006
1.60	0.79	0.61	0.30	0.20	0.15

G	H	J	K	wt
.020	.010	.022	.053	grams
0.51	0.25	0.56	1.35	0.005

TAPE & REEL INFORMATION: F114

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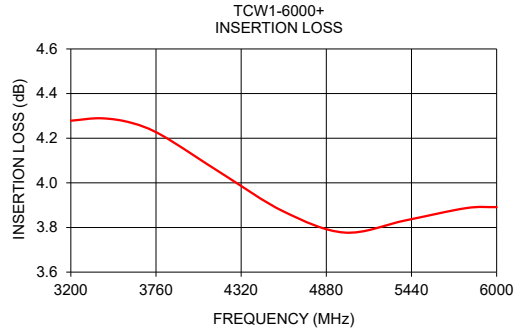
TCW1-6000+

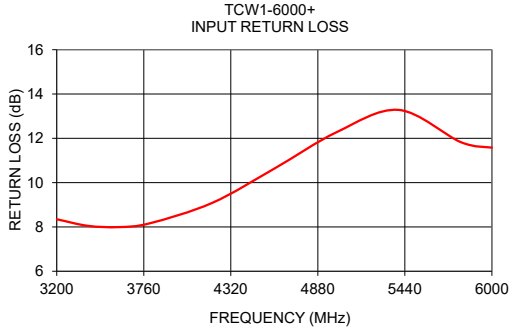
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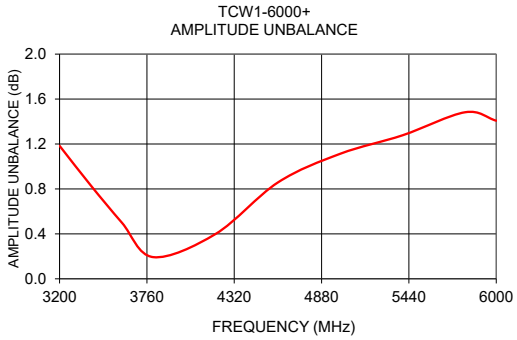
TYPICAL PERFORMANCE DATA[4]

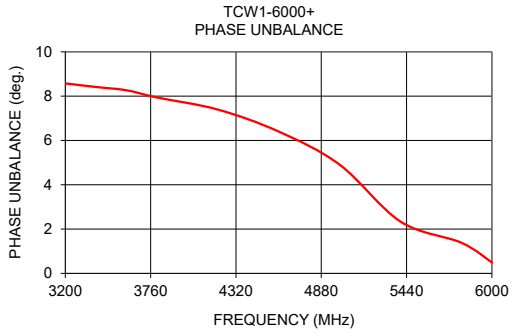
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Amplitude Unbalance (dB)	Phase Unbalance (deg)
3200.0	4.28	8.35	1.18	8.57
3400.0	4.29	8.05	0.83	8.41
3600.0	4.27	7.99	0.50	8.27
3800.0	4.21	8.17	0.19	7.94
4200.0	4.04	9.08	0.40	7.40
4600.0	3.87	10.63	0.86	6.40
5000.0	3.78	12.27	1.11	4.91
5400.0	3.83	13.28	1.28	2.34
5800.0	3.89	11.83	1.48	1.38
6000.0	3.89	11.58	1.41	0.49

4. Measured with Agilent E5071B network analyzer using impedance conversion and port extension.









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.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html