CERAMIC BALUN

RF Transformer

TCW2-272+

50Ω 2100 to 2700 MHz 1:2 Ratio

FEATURES

- Wideband, 2100 to 2700 MHz
- Low Phase Unbalance, 4 Deg. and Amplitude Unbalance, 0.6 dB Typ.
- Miniature Size 0603 (1.6x0.8 mm)
- 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
- WiMAX/WiBRO
- ISM
- Radar

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (Secondary/Primary)			2		
Frequency Range		2100		2700	MHz
Avg. Insertion Loss[1]	2400-2500 2100-2700		1.1 1.3	1.4	dB
Amplitude Unbalance	2400-2500 2100-2700		0.6 0.8	1.4	dB
Phase Unbalance[2]	2400-2500 2100-2700		4 8	10	Degree

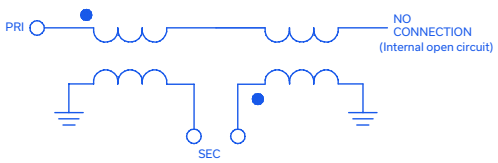
1. Reference demo board TB-TCW2-272+.
2. Relative to 180°.

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
RF Power Input[3]	2 W at +25°C

3. Passband rating. Derate linearly to 1 W at +100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

CONFIGURATION J



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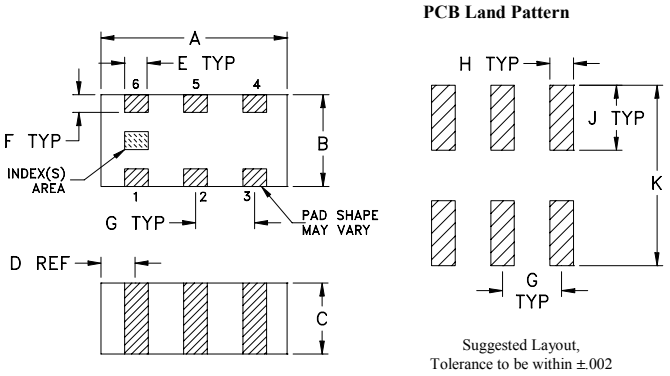
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PAD CONNECTIONS

PRIMARY DOT (Unbalanced Port)	1
RF GROUND (GND)	3
SECONDARY DOT (Balanced)	4
SECONDARY (Balanced)	6
NO CONNECTION	2,5

OUTLINE DRAWING



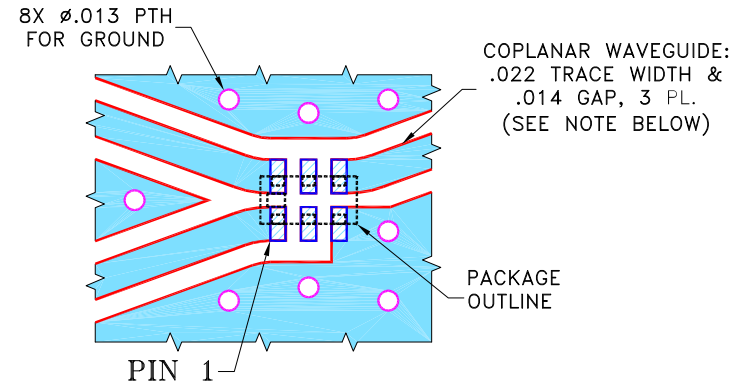
PRODUCT MARKING: N/A

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

DEMO BOARD MCL P/N: TB-TCW2-272+
SUGGESTED PCB LAYOUT (PL-430)



NOTES:

1. COPLANAR WAVEGUIDE IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .010" ± .001". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND 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.

TAPE & REEL INFORMATION: F114

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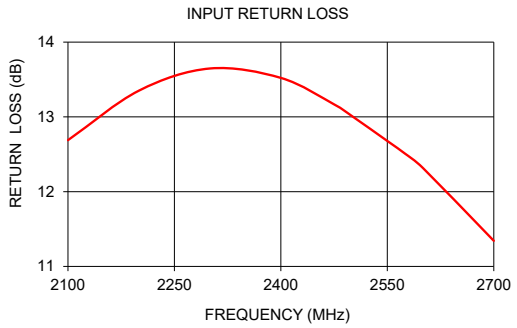
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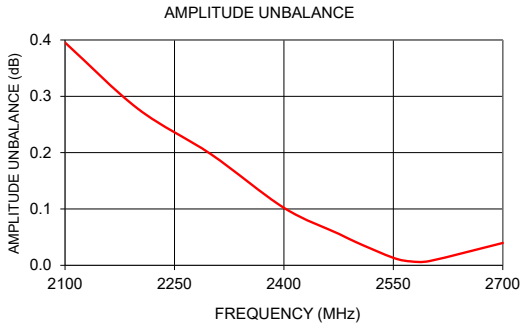
TYPICAL PERFORMANCE DATA[4]

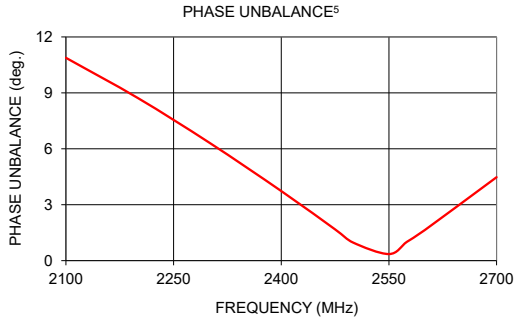
Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Amplitude Unbalance (dB)	Phase Unbalance[5] (deg)
2100	1.21	12.69	0.40	10.88
2200	1.15	13.35	0.28	8.73
2300	1.13	13.65	0.20	6.32
2400	1.14	13.52	0.10	3.73
2475	1.16	13.17	0.06	1.68
2500	1.17	13.01	0.04	0.97
2550	1.20	12.68	0.01	0.35
2575	1.22	12.51	0.01	1.01
2600	1.24	12.32	0.01	1.64
2700	1.34	11.34	0.04	4.47

4. Measured with Agilent E5071B network analyzer using impedance conversion and port extension.
5. Relative to 180°.









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