Ceramic Balun

RF Transformer

50Ω 2100 to 2700 MHz 1:2 Ratio

TCW2-272+

Generic photo used for illustration purposes only

CASE STYLE: JC0603C

+RoHS Compliant

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

Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500,1000, 4000

Features

- wideband, 2100 to 2700 MHz
- low phase unbalance, 5 deg. and amplitude unbalance, 0.6 dB typ.
- miniature size 0603 (1.6x0.8mm)
- LTCC construction
- low cost
- aqueous washable

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
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-793+
2. Relative to 180°

Maximum Ratings

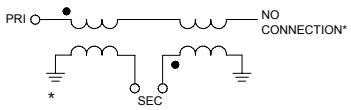
Parameter	Ratings
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power[3]	2W

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

Pad Connections

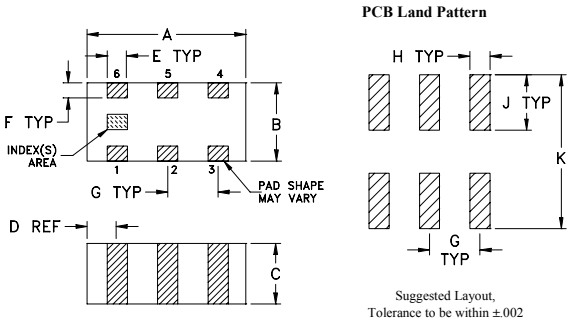
Function	Pin Number
PRIMARY DOT (Unbalanced Port)	1
PRIMARY (GND)	3
SECONDARY DOT (Balanced)	4
SECONDARY (Balanced)	6
NO CONNECTION	2,5

Configuration J



*Internal open circuit

Outline Drawing

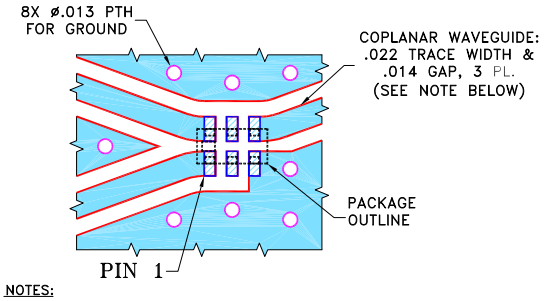


Outline Dimensions (inch / mm)

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-793+
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.

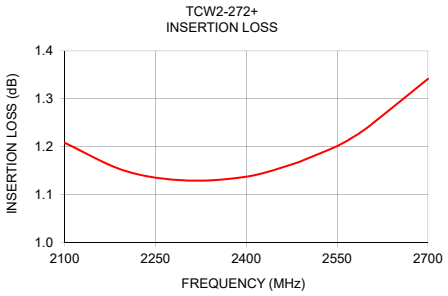
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).

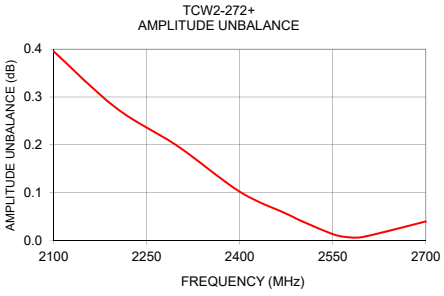
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

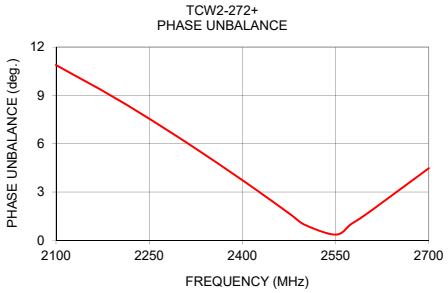
Typical Performance Data[4]

Frequency (MHz)	Insertion Loss (dB)	Input R. Loss (dB)	Amplitude Unbalance (dB)	Phase Unbalance (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.







Additional 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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