CERAMIC BALUN

RF Transformer

TCW2-63+

50Ω 4900 to 5875 MHz 1:2 Ratio

FEATURES

- Wideband, 4900 to 5875 MHz
- Low phase unbalance, 4 deg. and amplitude unbalance, 0.3 dB typ.
- 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
- Radar

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (Secondary/Primary)			2		
Frequency Range		4900	—	5875	MHz
Avg. Insertion Loss[1]	4900 - 5875	—	1.1	2.0	dB
Amplitude Unbalance	4900 - 5875	—	0.4	1.5	dB
Phase Unbalance[2]	4900 - 5875	—	4	15	Degree

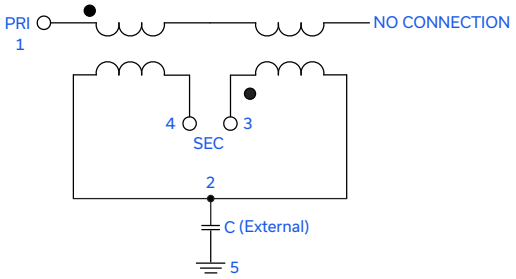
1. Reference demo board TB-828+.
2. Relative to 180°

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.

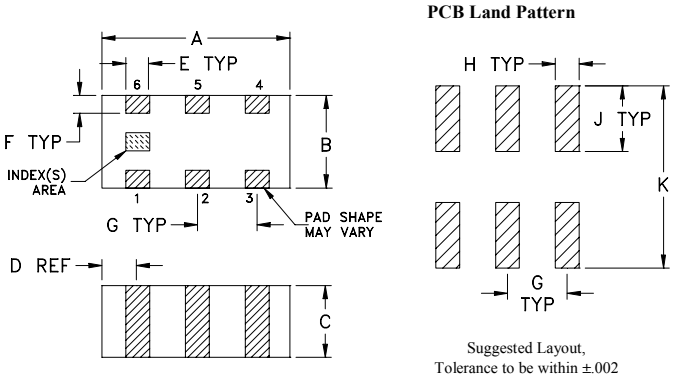
CONFIGURATION R



PAD CONNECTIONS

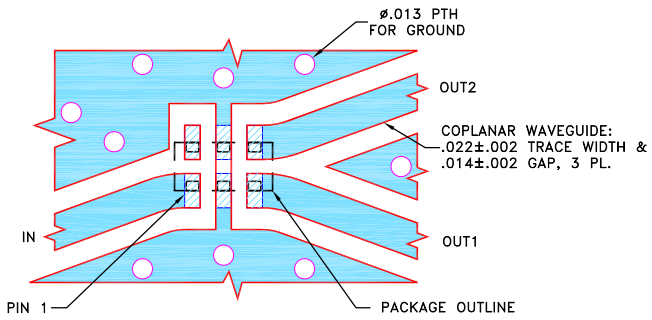
PRIMARY DOT (Unbalanced Port)	1
GND or DC feed + RF GND	2
SECONDARY DOT (Balanced)	3
SECONDARY (Balanced)	4
NO CONNECTION	6
GND	5

OUTLINE DRAWING



PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-828+
SUGGESTED PCB LAYOUT (PL-513)



1. TRACE WIDTH AND GAP PARAMETERS ARE 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.

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

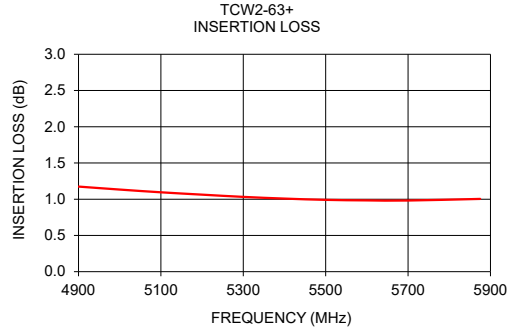
G	H	J	K	wt
.020	.010	.022	.053	grams
0.51	0.25	0.56	1.35	0.005

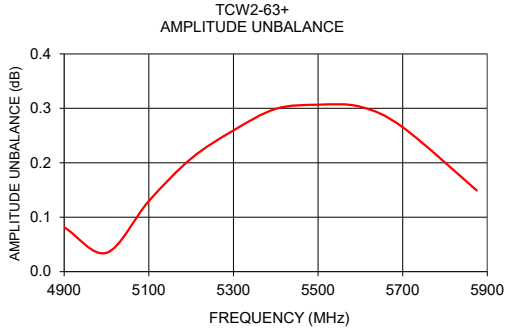
TAPE & REEL INFORMATION: F114

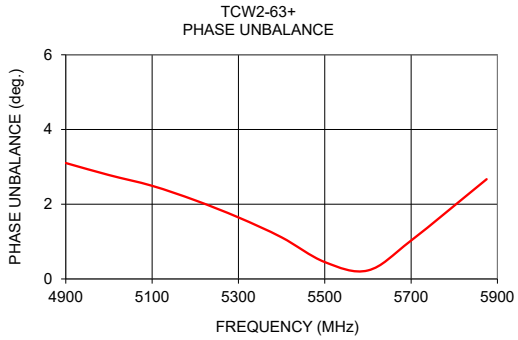
TYPICAL PERFORMANCE DATA[4]

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Amplitude Unbalance (dB)	Phase Unbalance (deg)
4900	1.17	12.76	0.08	3.10
5000	1.13	13.57	0.03	2.78
5100	1.10	14.50	0.13	2.49
5200	1.06	15.63	0.21	2.10
5300	1.03	17.03	0.26	1.65
5400	1.01	18.77	0.30	1.11
5500	0.99	20.98	0.31	0.45
5600	0.98	23.58	0.30	0.23
5700	0.98	26.01	0.27	1.03
5875	1.00	23.64	0.15	2.67

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.
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