

CERAMIC BALUN

RF Transformer

TCW2-722+

50Ω 2400 to 7125 MHz 1:2 Ratio

FEATURES

- Wideband, 2400 to 7125 MHz
- Miniature Size 0603 (1.6x0.8 mm)
- LTCC Construction
- Low Cost
- Aqueous Washable



Generic photo used for illustration purposes only

CASE STYLE: JC0603C-8

+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 (Secondary/Primary)		2			
Frequency Range		2400		7125	MHz
Avg. Insertion Loss ¹	2400-3900			1.6	dB
	3900-7125			1.9	
Amplitude Unbalance	2400-3300			2.3	dB
	3300-3900			1.2	
	3900-5900			1.5	
	5900-7125			2.3	
Phase Unbalance ²	2400-7125			15	Degree
Return Loss	2400-7125		12		dB

1. Reference Demo Board TB-TCW2-722+.

2. Relative to 180°.

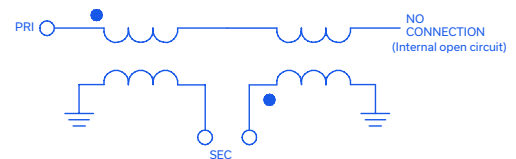
ABSOLUTE MAXIMUM RATINGS

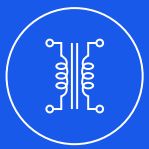
Parameter	Ratings
Operating Temperature	-55°C to +125°C
Storage Temperature	-55°C to +125°C
RF Power Input ³	0.5 W at +25°C

3. Passband rating.

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

CONFIGURATION J





Mini-Circuits

CERAMIC BALUN

RF Transformer

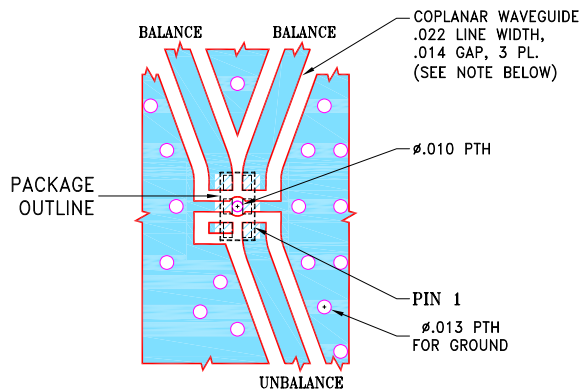
TCW2-722+

50Ω 2400 to 7125 MHz 1:2 Ratio

PAD CONNECTIONS

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

PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-TCW2-722+
SUGGESTED PCB LAYOUT (PL-681)

NOTES:

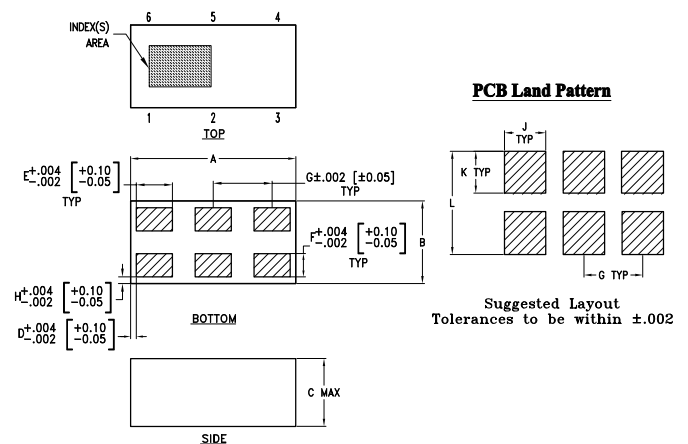
1. TRACE WIDTH AND GAP ARE SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .010"±.001"; COPPER: 1/2 OZ. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.



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

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

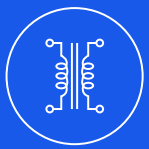
OUTLINE DRAWING

OUTLINE DIMENSIONS (Inches
mm)

A	B	C	D	E	F
.063	.032	.026	.002	.014	.009
1.60	0.81	0.66	0.05	0.36	0.23
G	H	J	K	L	wt
.022	.003	.016	.016	.039	grams
0.56	0.08	0.41	0.41	0.99	.005

TAPE & REEL INFORMATION: F114

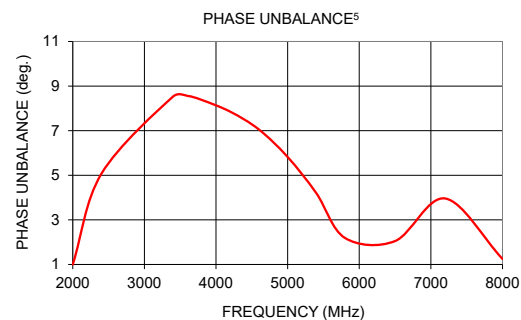
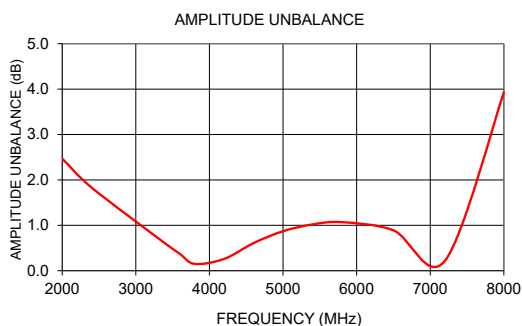
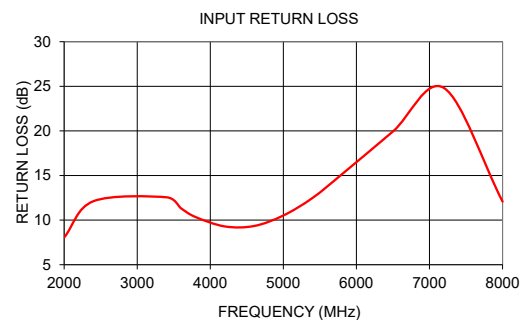
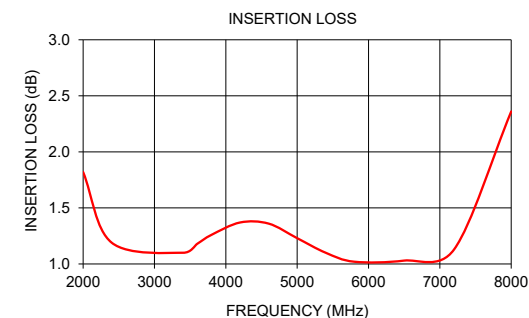


TYPICAL PERFORMANCE DATA⁴

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Amplitude Unbalance (dB)	Phase Unbalance ⁵ (deg)
2000	1.82	8.05	2.47	1.00
2400	1.19	12.12	1.83	5.07
3400	1.10	12.56	0.60	8.53
3600	1.18	11.32	0.37	8.56
3800	1.26	10.34	0.15	8.38
4200	1.37	9.29	0.26	7.85
4600	1.36	9.34	0.61	7.05
5000	1.23	10.52	0.87	5.82
5400	1.10	12.49	1.02	4.20
5800	1.02	15.13	1.07	2.19
6500	1.03	19.94	0.89	2.05
7200	1.13	24.80	0.22	3.96
8000	2.36	12.08	3.93	1.25

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