



Mini-Circuits

CERAMIC BALUN

RF Transformer

TCW2-722+

50Ω 2400 to 7125 MHz 1:2 Ratio

FEATURES

- Wideband, 2400 to 7125 MHz
- Miniature size 0603 (1.6x0.8mm)
- 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 web site for RoHS Compliance 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+

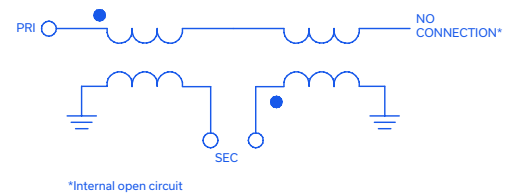
2. Relative to 180°

MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
RF Power	0.5W

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

CONFIGURATION J



Mini-Circuits

www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. A
ECO-010443
TCW2-722+
WY/TD/CP/AM
211103

PAGE 1 OF 3



Mini-Circuits

CERAMIC BALUN

RF Transformer

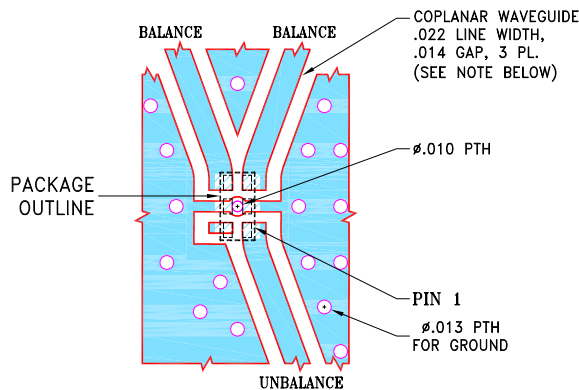
TCW2-722+

PAD CONNECTIONS

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

PRODUCT MARKING: N/A

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

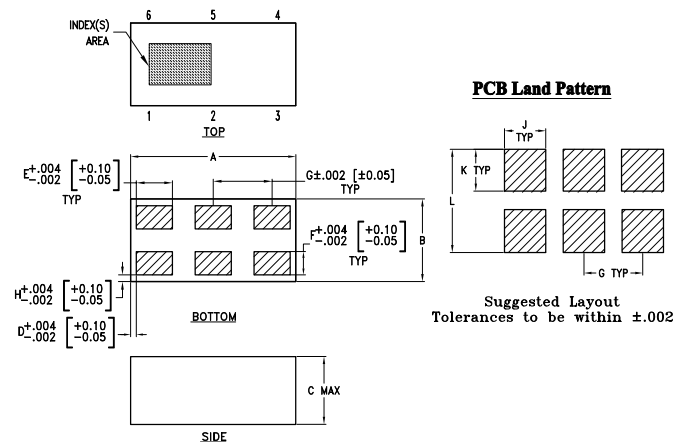


NOTES:

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

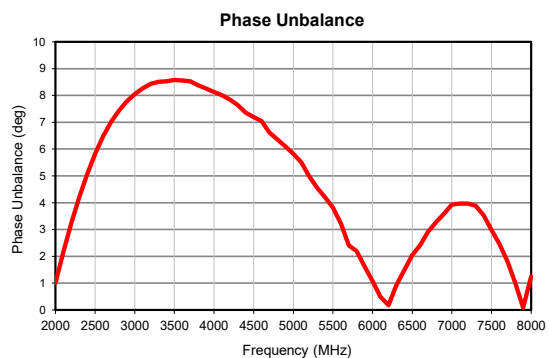
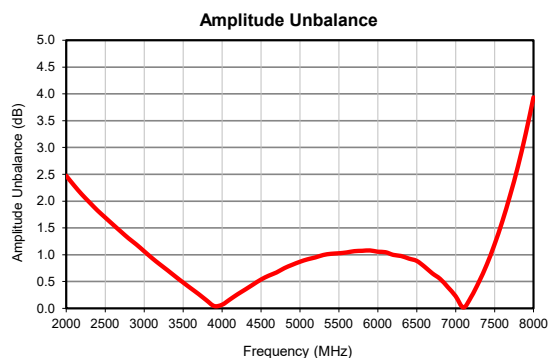
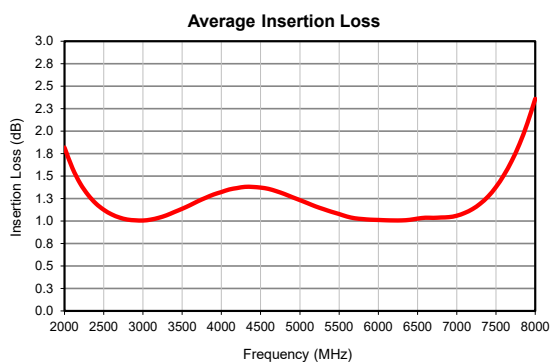
TAPE & REEL INFORMATION: F114



TYPICAL PERFORMANCE DATA³

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Amplitude Unbalance (dB)	Phase Unbalance (deg)
2400	4.19	11.95	1.99	9.21
3400	4.03	13.00	0.59	9.06
3600	4.09	12.07	0.32	8.82
3800	4.13	11.31	0.06	8.46
4200	4.21	10.60	0.41	7.06
4600	4.18	10.92	0.78	4.87
5000	4.10	12.15	1.02	2.65
5400	4.02	14.20	1.12	0.62
5800	3.99	16.33	1.06	3.43
7200	4.12	22.40	0.61	4.69

3. 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/MCLStore/terms.jsp

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Mini-Circuits:](#)

[TCW2-722+](#)