

Ceramic Balun RF Transformer

50Ω 2400 to 7125 MHz 1:2 Ratio

TCW2-722+



Generic photo used for illustration purposes only

CASE STYLE: JC0603C-8

Features

- wideband, 2400 to 7125 MHz
- miniature size 0603 (1.6x0.8mm)
- LTCC construction
- low cost
- aqueous washable

Applications

- WLAN
- A/D conversion
- WiFi
- transmitters and receivers
- cellular

+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

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (Secondary/Primary)			2		
Frequency Range		2400		7125	MHz
Average 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

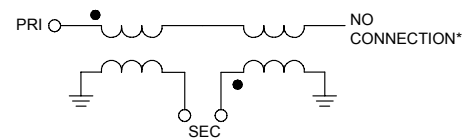
Parameter	Ratings
Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
RF Power	0.5W

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

Pad Connections

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

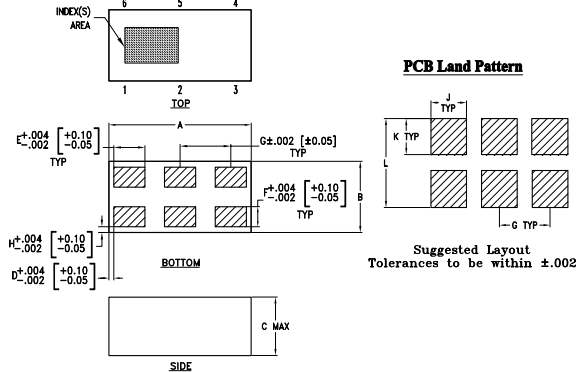
Configuration J



*Internal open circuit

TCW2-722+

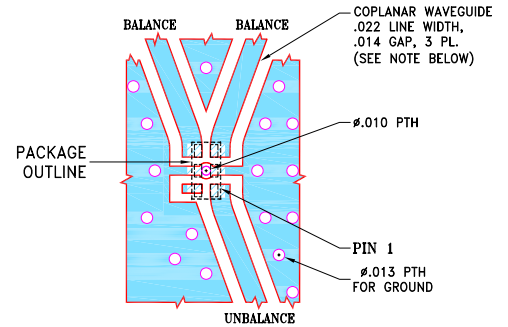
Outline Drawing



Outline Dimensions (inch/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

Demo Board MCL P/N: TB-TCW2-722+ Suggested PCB Layout (PL-681)



NOTES:

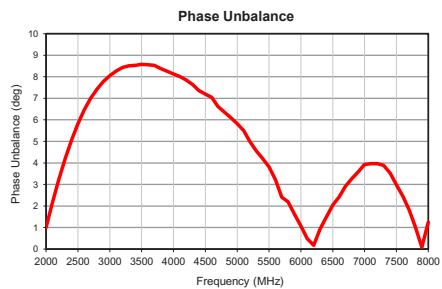
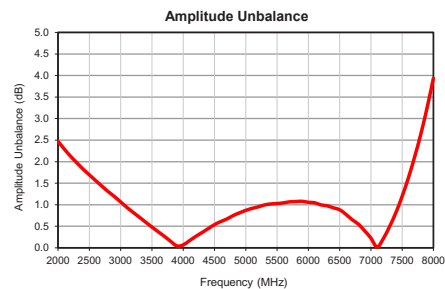
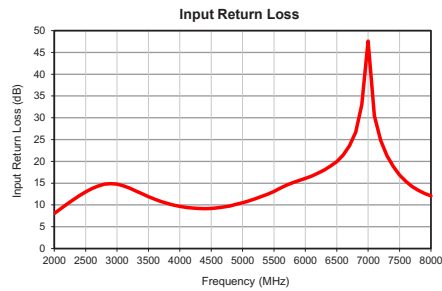
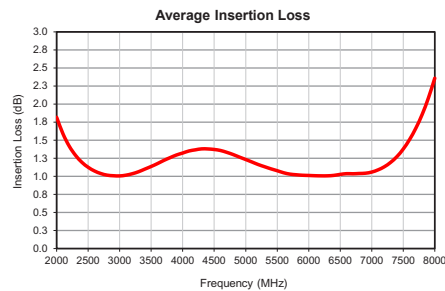
- TRACE WIDTH AND GAP ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .010"±.001"; COPPER: 1/2 OZ. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

Typical Performance Data³

Frequency (MHz)	Insertion Loss (dB)	Input R. 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.



Additional Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
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