

RF Transformer

TCW2-6000-2+

50Ω 3100 to 6000 MHz 1:2 Ratio



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

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Input RF Power	0.5W

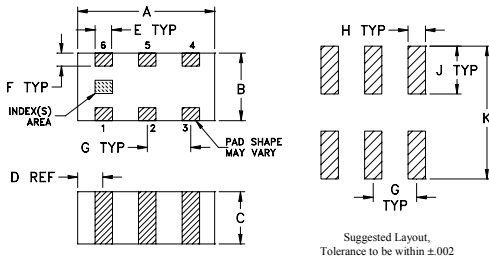
Permanent damage may occur if any of these limits are exceeded.

Pad Connections

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

Outline Drawing

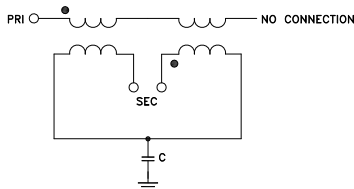
PCB Land Pattern



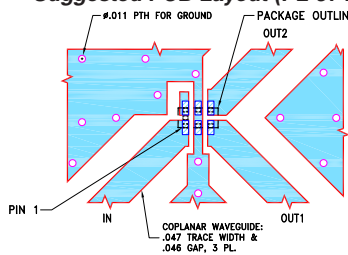
Outline Dimensions (inch/mm)

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	

Configuration R



Demo Board MCL P/N: TB-912+
Suggested PCB Layout (PL-574)



NOTES:

- TRACE WIDTH & GAP PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020±.0015. COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

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-Circuit's applicable established test performance criteria and measurement instructions.
- 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

Features

- wideband, 3100 to 6000 MHz
- miniature size 0603 (1.6x0.8mm)
- LTCC construction
- low cost
- aqueous washable

Applications

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

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio			2		
Frequency Range		3100		6000	MHz
Insertion Loss*	3100 - 6000		1.1	1.8	dB
Amplitude Unbalance	3100 - 6000		1.5	2.5	dB
Phase Unbalance †	3100 - 6000		11	15	Degree

* Reference Demo Board TB-912+
† Relative to 180°

Typical Performance Data at 25°C**

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
3100.0	3.93	10.93	1.04	9.21
3400.0	4.00	9.78	0.46	9.06
3600.0	4.01	9.49	0.07	8.82
3800.0	4.00	9.51	0.29	8.46
4200.0	3.92	10.33	0.85	7.06
4600.0	3.82	11.73	1.30	4.87
5000.0	3.77	13.31	1.64	2.65
5400.0	3.78	13.75	1.66	0.62
5800.0	3.84	13.09	1.60	3.43
6000.0	3.88	12.46	1.44	4.69

** Measured with Agilent E5071B network analyzer using impedance conversion and port extension.

