LTCC Balun

RF Transformer

BLGE4-542R+

50Ω 4900 to 5875 MHz 1:4 Ratio



Generic photo used for illustration purposes only

CASE STYLE: GE0805C-9

+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	-40°C to 85°C
Storage Temperature*	-55°C to 100°C
Input RF Power	2W

*Refer to product storage temperature after installation.
Suggestion for T&R unused product storage condition: +5~+35°C, Humidity 45~75%RH, 12 Month max.
Permanent damage may occur if any of these limits are exceeded.

Pad Connections

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

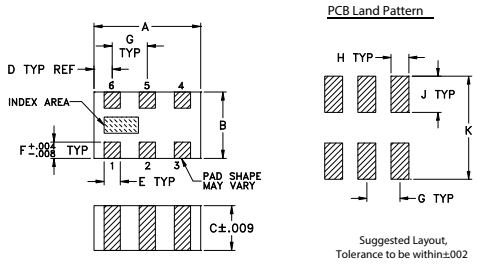
Features

- low phase unbalance, 4.3 deg. and amplitude unbalance, 0.2 dB typ.
- miniature size 0805 (0.079"[2.0mm]) x 0.049"[1.25mm] x 0.037"[0.95mm])
- low cost
- aqueous washable

Applications

- ISM Band
- WLAN/Wi-Fi
- Bluetooth
- Zigbee

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F
.079	.049	.033	.014	.012	.012
2.0	1.24	0.84	0.36	0.30	0.30

G	H	J	K	wt
.026	.014	.039	.110	grams
0.66	0.36	1.00	2.80	.008

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio			4		
Frequency Range		4900	—	5875	MHz
Insertion Loss*	4900 - 5875	—	1.3	1.9	dB
Amplitude Unbalance	4900 - 5875	—	0.6	2.0	dB
Phase Unbalance†	4900 - 5875	—	4.3	15	Degree
Unbalance Return Loss	4900 - 5875	7.3	9	—	dB

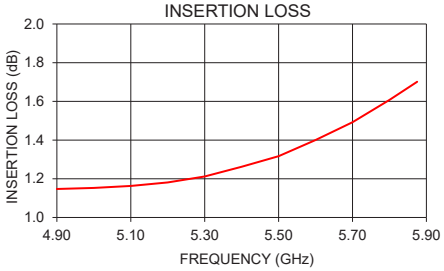
* Tested on Evaluation Board TB-BLGE4-542R+
† Relative to 180°

Typical Performance Data at 25°C**

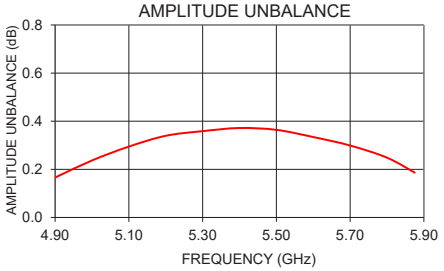
FREQUENCY (GHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
4.90	1.15	10.62	0.17	4.10
5.00	1.15	10.66	0.24	4.50
5.10	1.16	10.64	0.29	4.81
5.20	1.18	10.59	0.34	5.07
5.30	1.21	10.42	0.36	5.31
5.40	1.26	10.18	0.37	5.55
5.50	1.32	9.81	0.36	5.79
5.60	1.40	9.35	0.33	5.99
5.70	1.49	8.83	0.30	6.14
5.80	1.61	8.27	0.25	6.27
5.875	1.70	7.84	0.19	6.39

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

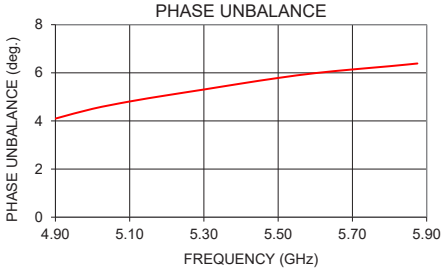
BLGE4-542R+
INSERTION LOSS



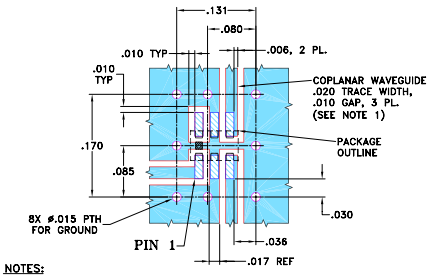
BLGE4-542R+
AMPLITUDE UNBALANCE



BLGE4-542R+
PHASE UNBALANCE



Evaluation Board MCL P/N: TB-BLGE4-542R+
Suggested PCB Layout (PL-264)

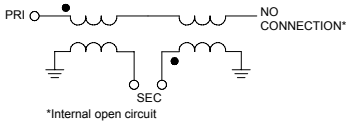


NOTES:
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .010" ± .001". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Configuration J



*Internal open circuit

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

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