Ceramic Balun

RF Transformer

NCS4-102+

50Ω 700 to 1000 MHz

CASE STYLE: GE0805C-1
PRICE: $0.99 QTY. (20)

Maximum Ratings

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

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

Pad Connections

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

Pads 2,4,5 are DC connected internally.

Features

- wideband, 700 to 1000 MHz
- low phase unbalance, 5 deg and amplitude unbalance, 0.5 dB typ.
- miniature size, 0.079"x0.049"x0.033"
- LTCC construction
- low cost
- aqueous washable

Applications

- LTE
- radar
- cellular

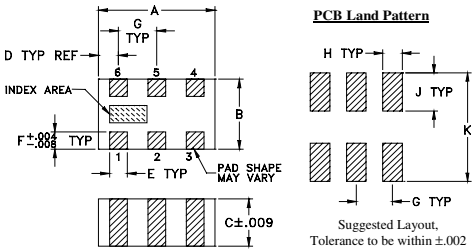
+RoHS Compliant

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, 2000

Outline Drawing

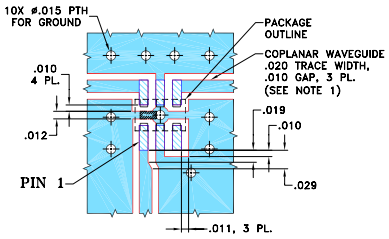


Outline Dimensions (inch / mm)

A	B	C	D	E	F
.079	.049	.033	.014	.012	.012
2.01	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

Demo Board MCL P/N: TB-628+
Suggested PCB Layout (PL-354)



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.

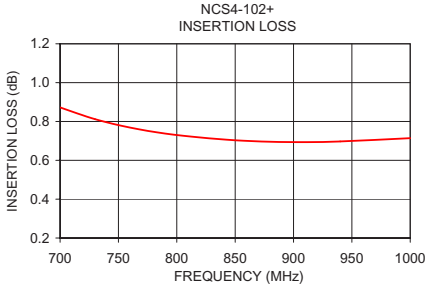
Electrical Specifications[1] at 25°C

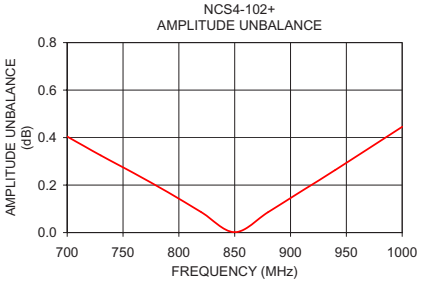
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio *(Secondary/Primary)*			4		
Frequency Range		700		1000	MHz
Insertion Loss	700 - 1000	—	0.9	1.3	dB
Amplitude Unbalance	700 - 1000	—	0.5	—	dB
Phase Unbalance at Secondary†	700 - 1000	—	5	—	Degree

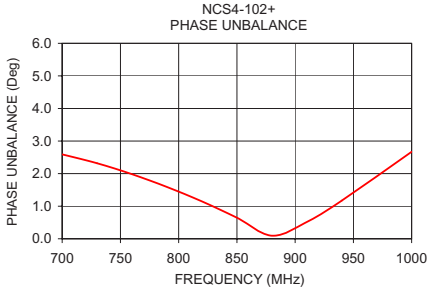
1. Measured on Demo board TB-628+
† Relative to 180°

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE† (deg.)
700.00	0.87	13.12	0.40	2.59
730.00	0.81	14.07	0.33	2.32
760.00	0.77	14.86	0.25	1.98
790.00	0.74	15.48	0.17	1.59
820.00	0.72	15.91	0.09	1.15
850.00	0.70	16.14	0.00	0.65
880.00	0.70	16.15	0.09	0.09
910.00	0.69	16.01	0.17	0.52
940.00	0.70	15.76	0.26	1.17
1000.00	0.71	15.04	0.45	2.67







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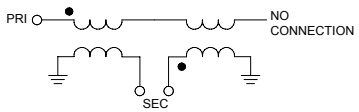

Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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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