



## CERAMIC BALUN

# RF Transformer

## NCS2-62+

Mini-Circuits

50Ω 390 to 590 MHz 1:2 Ratio

### FEATURES

- Low phase unbalance 5 deg. and amplitude unbalance, 0.5 dB typ.
- Miniature size 0805, 0.079"x0.049"x0.033"
- LTCC construction
- Low cost
- Aqueous washable



Generic photo used for illustration purposes only

CASE STYLE: GE0805C-9

### APPLICATIONS

- VHF/UHF
- Signal process
- Instrumentation

#### +RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Impedance Ratio (Secondary/Primary)			2		
Frequency Range		390		2815	MHz
Insertion Loss <sup>1</sup>	460 - 470	—	0.6	1.0	dB
	390 - 590	—	0.8	—	
Amplitude Unbalance	460 - 470	—	0.5	1.0	dB
	390 - 590	—	0.8	—	
Phase Unbalance <sup>2</sup>	460 - 470	—	3	8	Degree
	390 - 590	—	5	—	

1. Reference Demo Board TB-755+

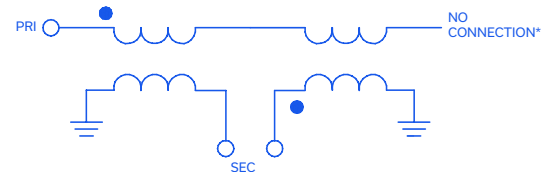
2. Relative to 180°

### MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
RF Power <sup>3</sup>	2W at 25°C

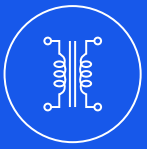
3. Passband rating, derate linearly to 1W at 125°C ambient. Permanent damage may occur if any of these limits are exceeded.

### CONFIGURATION J



\*Internal open circuit



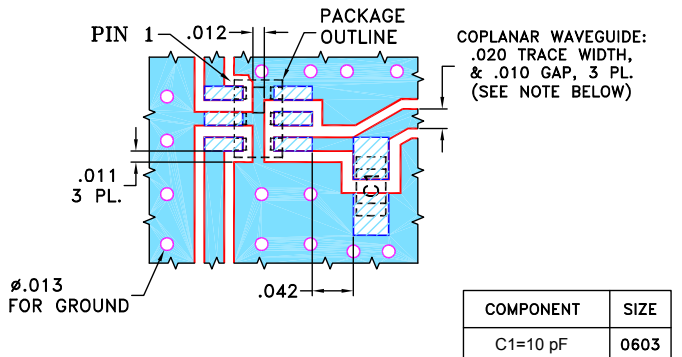


### PAD CONNECTIONS

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

PRODUCT MARKING: N/A

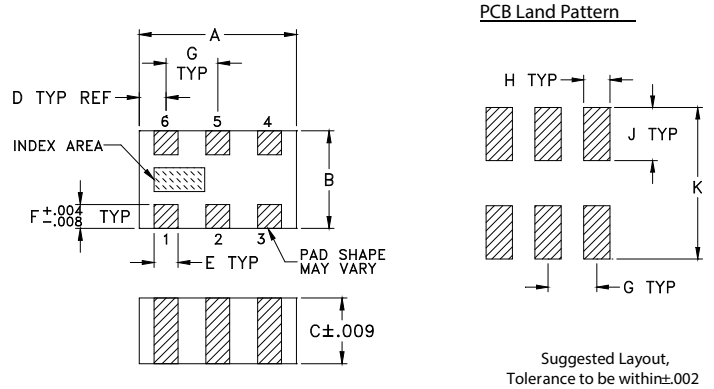
### DEMO BOARD MCL P/N: TB-755+ SUGGESTED PCB LAYOUT (PL-438)



- NOTES:**
1. COPLANAR WAVEGUIDE IS SHOWN FOR ROGERS RO4350B WITH THICKNESS .010" ± .001". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
  2. CHIP COMPONENT FOOT PRINTS SHOWN FOR REFERENCE. FOR COMPONENT VALUES REFER TO TB-755+.
  3. 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

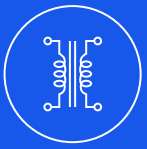
### OUTLINE DRAWING



### OUTLINE DIMENSIONS (Inches/mm)

A	B	C	D	E	F
.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	

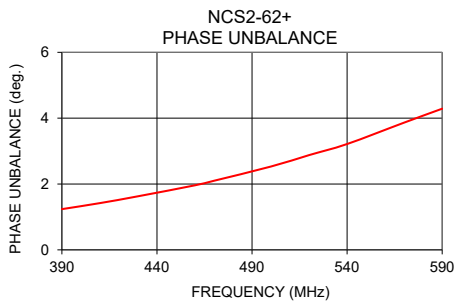
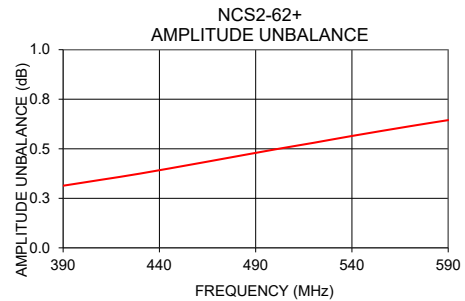
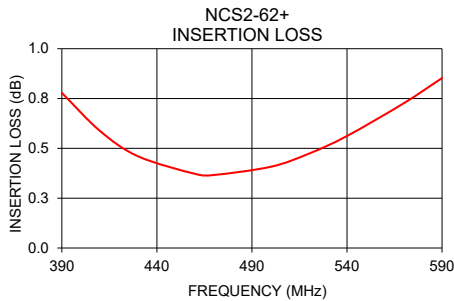
### TAPE & REEL INFORMATION: F74



### TYPICAL PERFORMANCE DATA<sup>3</sup>

Frequency (MHz)	Insertion Loss (dB)	Input Return Loss (dB)	Amplitude Unbalance (dB)	Phase Unbalance (deg)
390	0.78	10.62	0.31	1.24
410	0.59	12.87	0.34	1.42
430	0.46	15.47	0.37	1.63
460	0.37	18.26	0.43	1.96
470	0.37	17.45	0.46	2.10
500	0.41	15.45	0.50	2.53
520	0.47	13.50	0.53	2.88
540	0.56	11.90	0.56	3.22
570	0.73	10.04	0.61	3.87
590	0.85	9.09	0.64	4.29

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.
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