



CERAMIC BALUN

RF Transformer

NCS1-521+

Mini-Circuits

50Ω 223 to 520 MHz 1:1 Ratio

FEATURES

- Wideband, 223 to 520 MHz
- Low phase unbalance, 5 deg. and amplitude unbalance, 0.7 dB typ.
- Miniature size, 0.079"x0.049"x0.033"
- LTCC construction
- Low cost
- Aqueous washable



Generic photo used for illustration purposes only

CASE STYLE: GE0805C-9

APPLICATIONS

- WLAN
- GSM
- Two way trunked radio

+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			1		
Frequency Range		223		520	MHz
Insertion Loss ¹ (average)	223 - 520	—	—	1.5	dB
Amplitude Unbalance	223 - 520	—	—	1.5	dB
Phase Unbalance ²	223 - 520	—	—	10	Degree

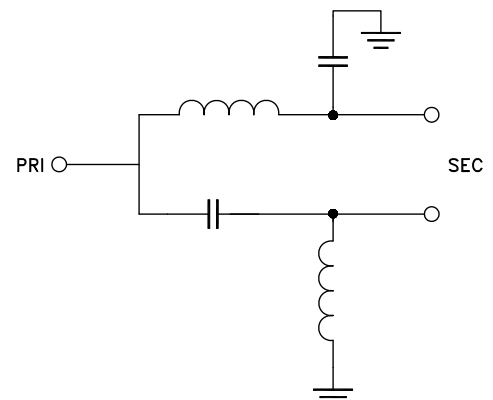
1. Reference Demo Board TB-419+
2. Relative to 180°

MAXIMUM RATINGS

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

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

CONFIGURATION S



Mini-Circuits

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REV. A
ECO-010420
NCS1-521+
MCL NY
211101

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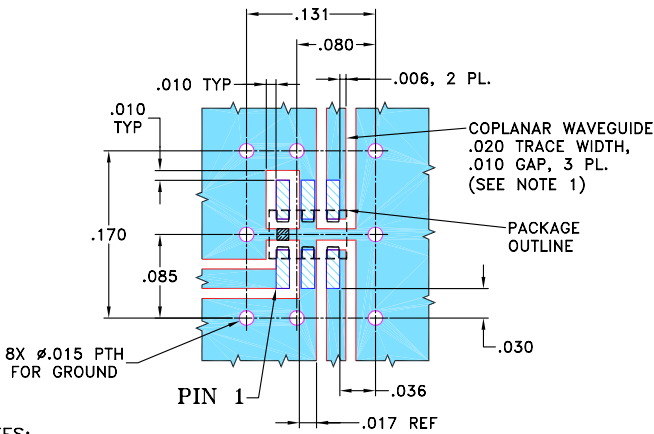


PAD CONNECTIONS

PRIMARY DOT (Unbalanced Port)	1
PRIMARY (GND)	2
SECONDARY DOT (Balanced)	4
SECONDARY (Balanced)	3
NO CONNECTION	6
NOT USED (GND Externally)	5

PRODUCT MARKING: N/A

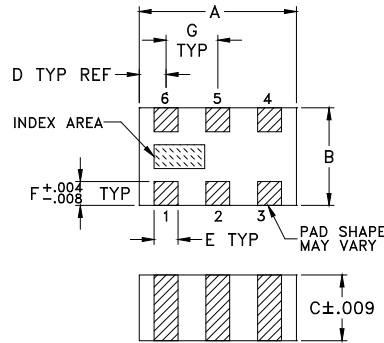
DEMO BOARD MCL P/N: TB-419+ SUGGESTED PCB LAYOUT (PL-264)



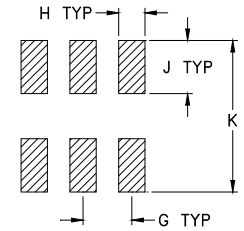
NOTES:

1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS R04350B 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

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±0.002

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