



CERAMIC BALUN

RF Transformer

NCS4-272+

50Ω 2300 to 2700 MHz 1:4 Ratio

FEATURES

- Wideband, 2300 to 2700 MHz
- Low phase unbalance, 5 deg and amplitude unbalance, 0.3 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-1

+RoHS Compliant

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

APPLICATIONS

- WLAN
- WIMAX/WIBRO
- MMD
- Radar

ELECTRICAL SPECIFICATIONS¹ AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Impedance Ratio (Secondary/Primary)			4		
Frequency Range		2300		2700	MHz
Insertion Loss ¹	2300 - 2700	—	1.0	—	dB
Amplitude Unbalance	2300 - 2700	—	0.3	—	dB
Phase Unbalance ²	2300 - 2700	—	5	—	Degree

1. Insertion Loss is referenced to mid-band loss, 0.8 dB. Reference Demo Board TB-419+

2. Relative to 180°

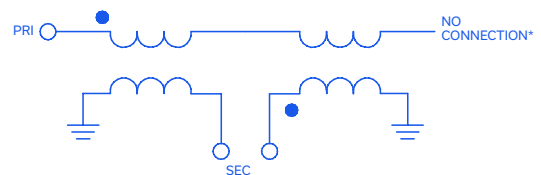
MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power ³	3W

3. Derate linearly to 2W at 85°C.

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

CONFIGURATION J



*Internal open circuit





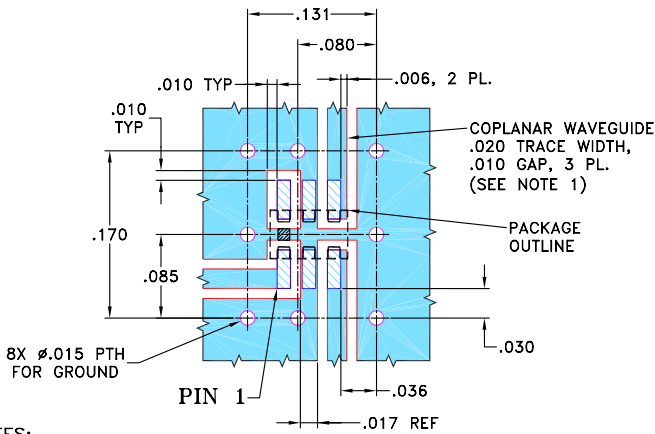
PAD CONNECTIONS

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

Pads 2,4,5 are DC-connected internally.

PRODUCT MARKING: N/A

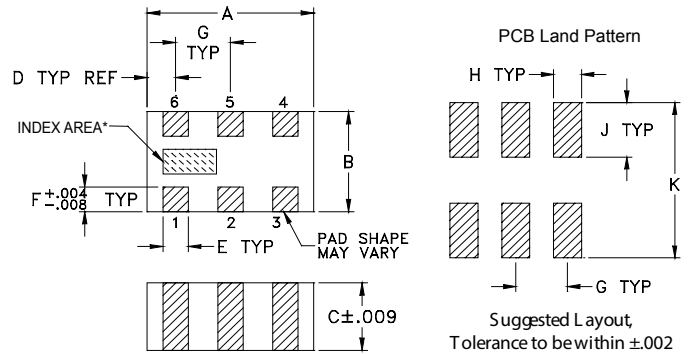
DEMO BOARD MCL P/N: TB-419+ SUGGESTED PCB LAYOUT (PL-264)



NOTES:

- COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS $.010'' \pm .001''$. COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
 - 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
2.01	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

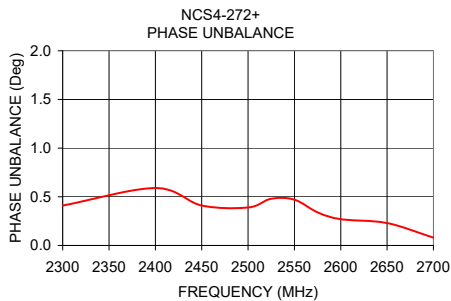
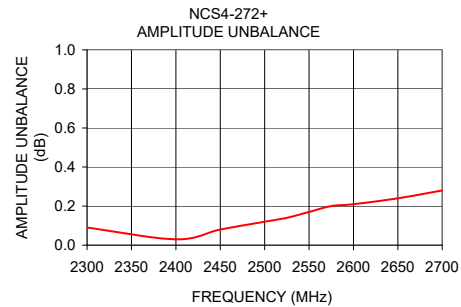
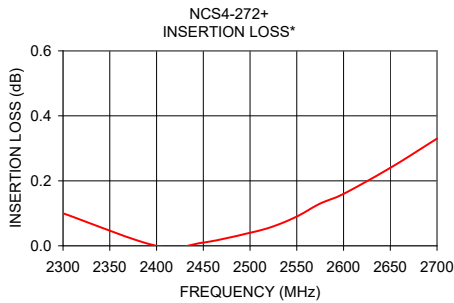
TAPE & REEL INFORMATION: F74



TYPICAL PERFORMANCE DATA⁴

Frequency (MHz)	Insertion Loss (dB)	Input Return Loss (dB)	Amplitude Unbalance (dB)	Phase Unbalance (deg)
2300	0.10	16.96	0.09	0.41
2400	0.00	25.02	0.03	0.59
2450	0.01	23.15	0.08	0.41
2500	0.04	19.33	0.12	0.39
2525	0.06	17.78	0.14	0.48
2550	0.09	16.48	0.17	0.47
2575	0.13	15.42	0.20	0.34
2600	0.16	14.50	0.21	0.27
2650	0.24	12.99	0.24	0.23
2700	0.33	11.81	0.28	0.08

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



- NOTES**
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