Engineering Development Model

RF Transformer NCS2-ED12817/34B13

Impedance Ratio : 2

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability.
At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.

Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE: GE0805C-1

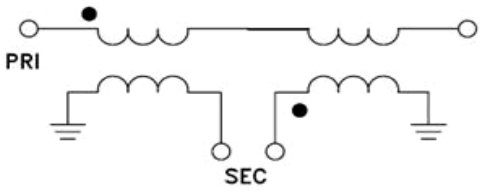
ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency		1200		2200	MHz
Insertion Loss *	**1 dB Bandwidth**		1200 - 2200		MHz

Note: * Insertion Loss is referenced to mid-band loss, 0.61dB typ.

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Input RF Power **	3 W

**** Derate linearly to 2W at 85°C

Configuration : J



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

Pads 2,3,4 are DC-connected internally.

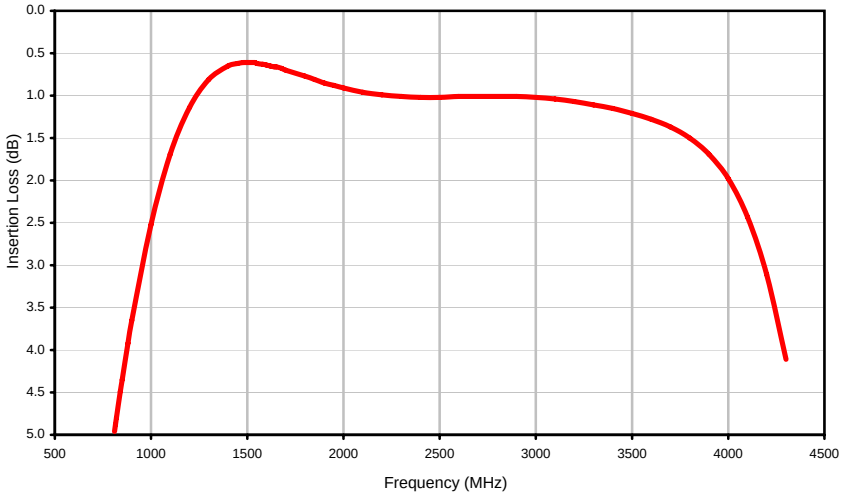
RF Transformer NCS2-ED12817/34B13

Typical Performance Data

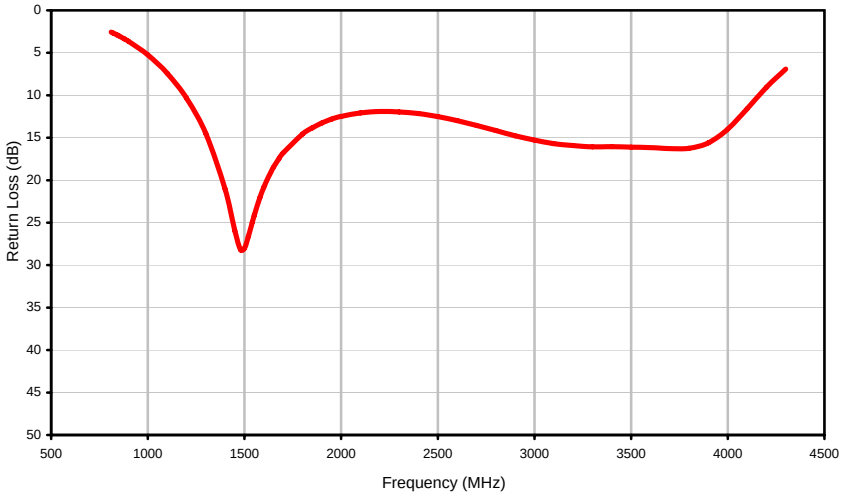
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
810	4.96	2.56
815	4.88	2.62
820	4.80	2.67
840	4.49	2.89
850	4.35	3.00
880	3.92	3.37
900	3.65	3.63
1000	2.52	5.23
1100	1.69	7.41
1200	1.14	10.35
1300	0.81	14.53
1400	0.65	21.04
1450	0.62	25.97
1480	0.61	28.21
1500	0.61	28.03
1520	0.61	26.65
1540	0.61	24.97
1550	0.62	24.17
1580	0.63	22.02
1600	0.64	20.84
1620	0.65	19.81
1640	0.66	18.91
1650	0.66	18.49
1680	0.68	17.39
1700	0.70	16.78
1800	0.77	14.57
1850	0.81	13.84
1900	0.85	13.27
1950	0.88	12.82
2000	0.91	12.49
2100	0.96	12.07
2200	0.99	11.91
2300	1.01	11.96
2400	1.02	12.16
2500	1.02	12.50
2600	1.01	12.98
2700	1.01	13.55
2800	1.01	14.14
2900	1.01	14.77
3000	1.02	15.27
3100	1.04	15.70
3200	1.07	15.92
3300	1.11	16.07
3400	1.15	16.05
3500	1.21	16.10
3600	1.28	16.16
3700	1.37	16.28
3800	1.50	16.24
3900	1.69	15.60
4000	1.98	13.97
4100	2.43	11.58
4200	3.11	9.04
4300	4.11	6.91

Typical Performance Curves

Insertion Loss

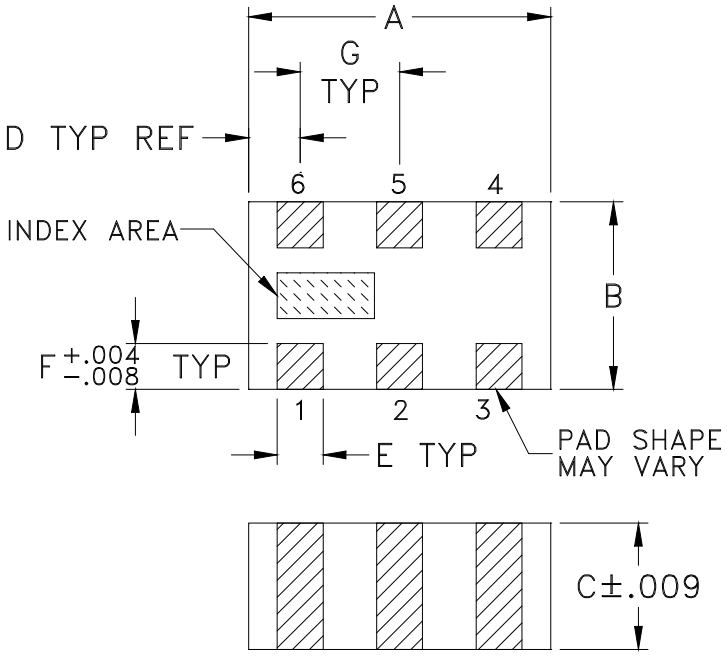


Return Loss

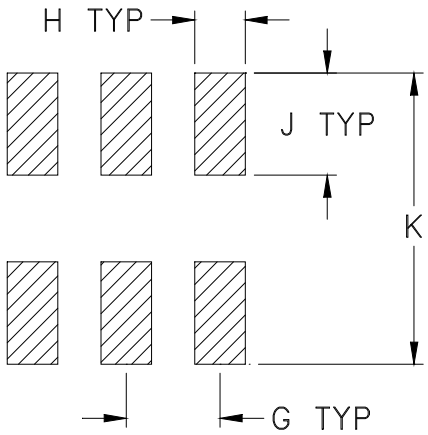


GE0805C-1

Outline Dimensions



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

CASE #	A	B	C	D	E	F	G	H	J	K	WT. GRAM
GE0805C-1	.079 (2.00)	.049 (1.25)	.033 (0.84)	.014 (0.35)	.012 (0.30)	.012 (0.30)	.026 (0.65)	.014 (0.35)	.039 (1.00)	.110 (2.80)	.008

Dimensions are in inches (mm). Tolerances: 2Pl. ± .01; 3 Pl. ± .005

Notes:

1. Open style, ceramic base.
2. Termination finish: For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.
   For RoHS-5 Case Style: Tin-lead plate. All models, no (+) suffix.

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Tape & Reel Packaging TR-F74

DEVICE ORIENTATION IN T&R

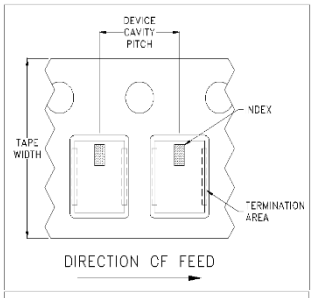

ILLUSTRATION 1

Applicable Case Styles
GE0805C-1
GE0805C-1AP
JV1210C-1
GU2939

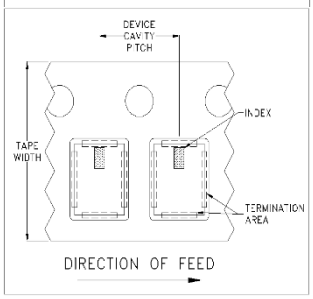

ILLUSTRATION 2

Applicable Case Styles
JV1210C
JV1210C-2
JV1210C-3
JV1210C-4
JV1210C-5
JV1210C-6
JV1210C-11

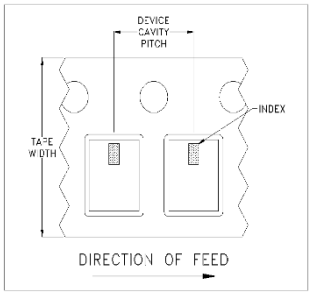

ILLUSTRATION 3

Applicable Case Styles
JC0603C-8
JC0603C-9
JV1210C-7
JV1210C-8
JV1210C-9
JV1210C-10
JV1210C-13
GE0805C-13
GE0805C-19
GE0805C-20

Tape Width, mm	Device Cavity Pitch, mm	Real Size, inches	Devices per Reel	
8	4	7	Small quantity standards **(see note)**	20
				50
				100
				200
				500
				1000
			Standard	2000
				4000

Note: Small reel availability varies by model. Refer to pricing and availability on individual model dashboard.

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.
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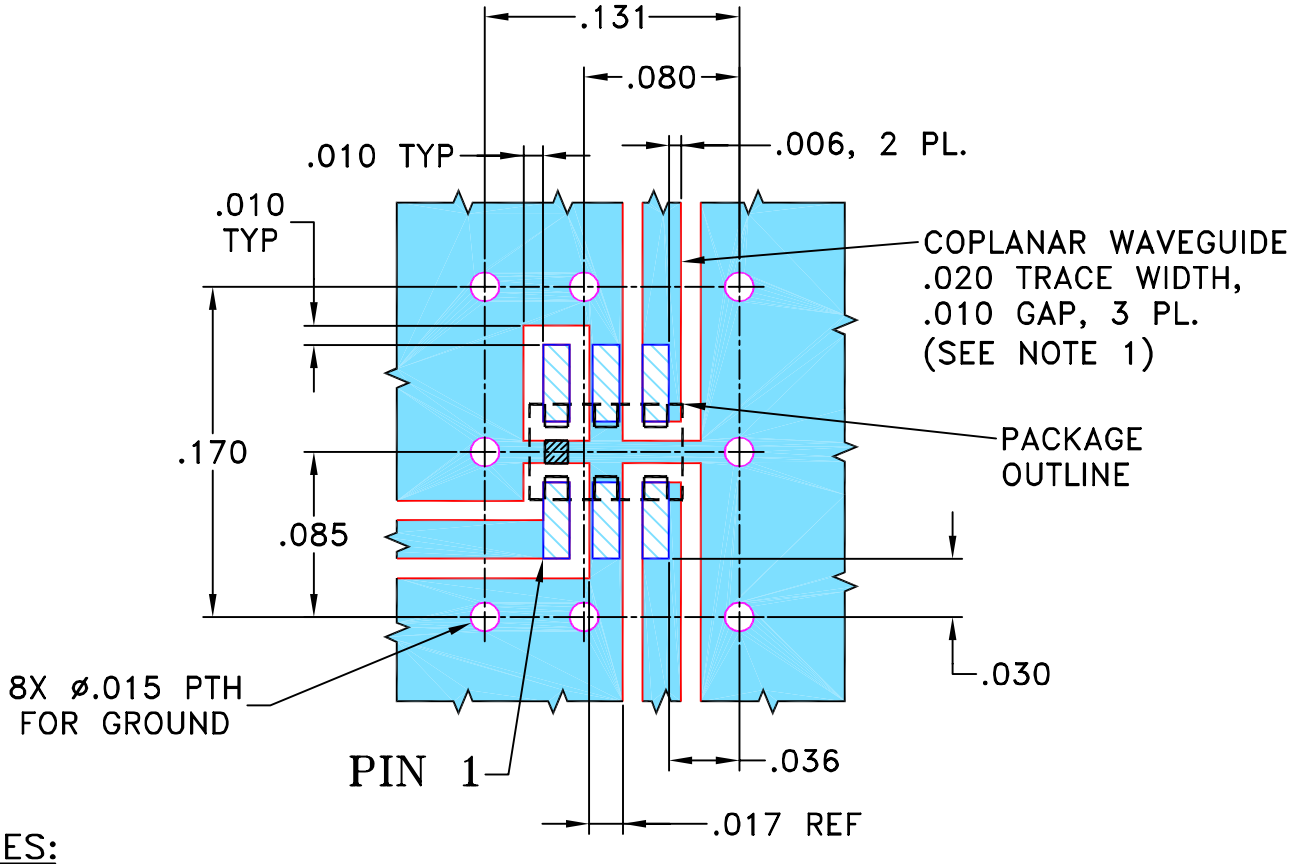
THIRD ANGLE PROJECTION

REVISIONS					
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M109549	NEW RELEASE	01/31/07	PW	DJ

SUGGESTED MOUNTING CONFIGURATION FOR GE0805C-1 CASE STYLE, "ry" PIN CONNECTION.



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

UNLESS OTHERWISE SPECIFIED		INITIALS	DATE
DIMENSIONS ARE IN INCHES	DRAWN	PW	01/30/07
TOLERANCES ON:	CHECKED	IL	01/31/07
2 PL DECIMALS ±	APPROVED	DJ	01/31/07
3 PL DECIMALS ± .005			
ANGLES ±			
FRACTIONS ±			

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ASHEETA1.DWG REV:A DATE:01/12/95

Mini-Circuits® 13 Neptune Avenue Brooklyn NY 11235

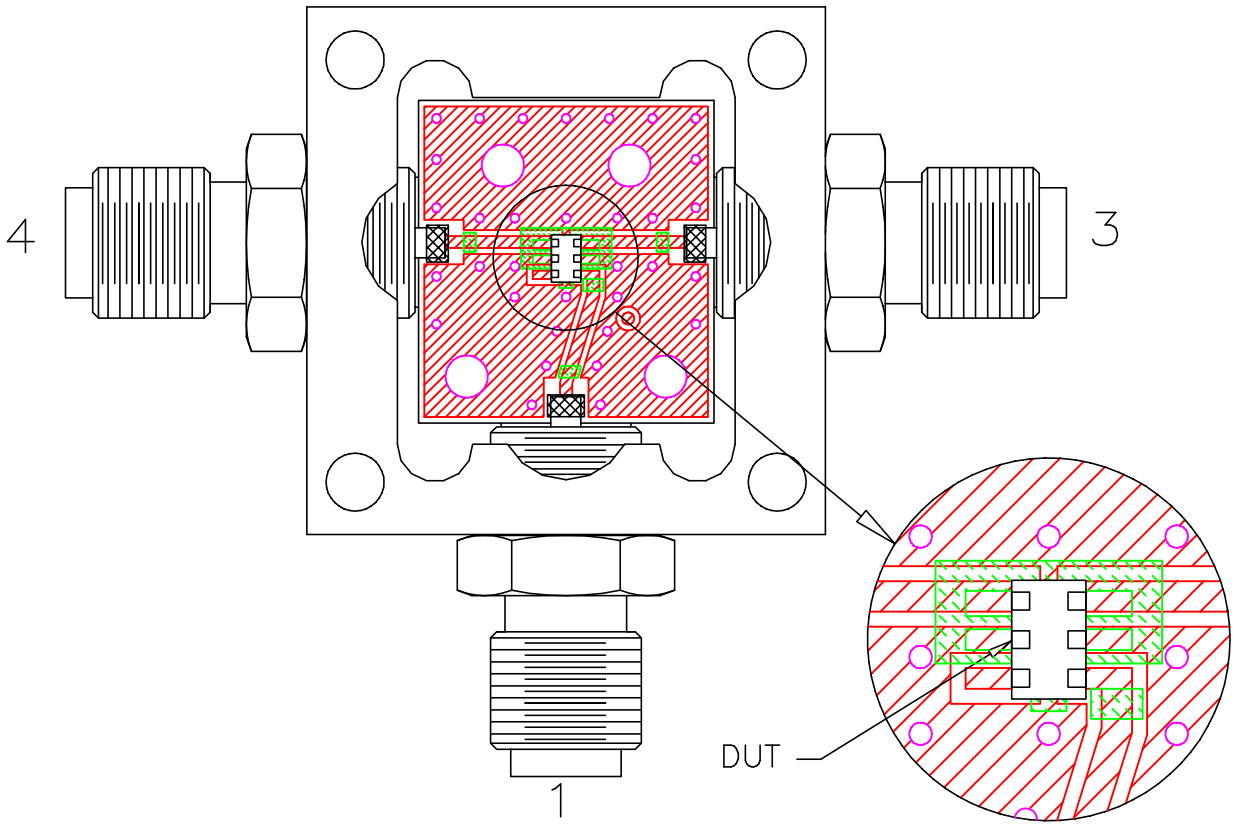
PL, ry, GE0805C-1, NCS, TB-419+

SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-264	OR

FILE:	SCALE:	SHEET:
98PL264	10:1	1 OF 1

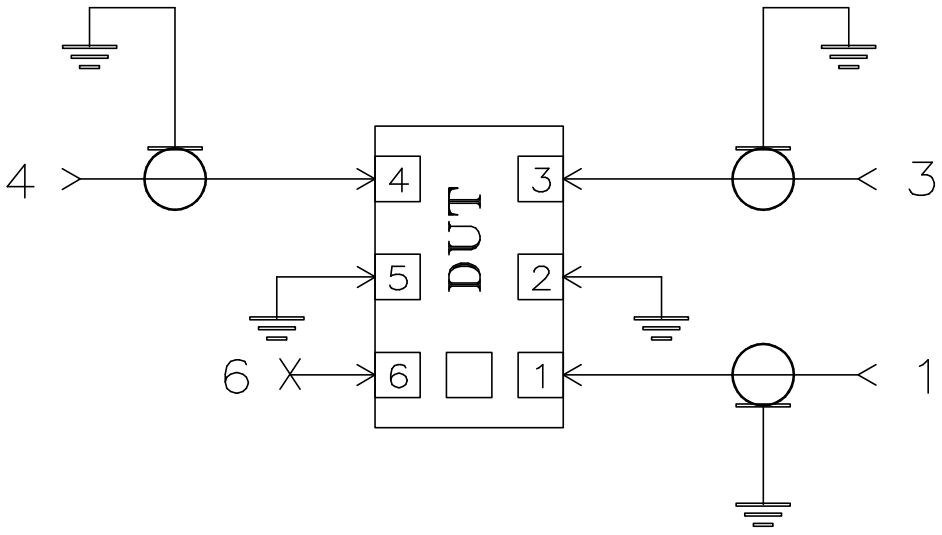
Evaluation Board and Circuit

For Pin Connections refer to Data Sheet of the DUT



TB-419+

DETAIL
(SCALE 5:1)



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: Rogers RO4350 or equivalent, Dielectric Constant=3.5, Thickness=.010 inch.

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Environmental Specifications ENV06T2

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, Para 4.2.5, Test S, 95% Coverage
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A

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