

Engineering Development Model

RF Transformer

NCS1-ED12817/34B26

Impedance Ratio : 1

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.

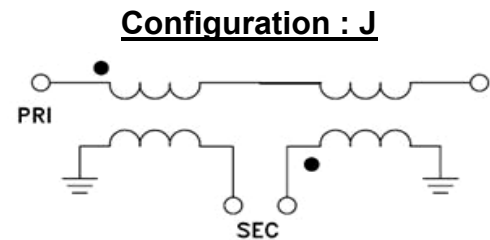
CASE STYLE: GE0805C-1

| ELECTRICAL SPECIFICATIONS 50Ω @ +25°C | | | | |
|---------------------------------------|----------------|------|-------------|-------|
| Parameter | Min. | Typ. | Max. | Units |
| Frequency | 3680 | | 4400 | MHz |
| Insertion Loss * | 1 dB Bandwidth | | 3680 - 4400 | MHz |

Note: * Insertion Loss is referenced to mid-band loss, 1.04dB 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



| 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.

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Typical Performance Data

| FREQUENCY (MHz) | INSERTION LOSS (dB) | RETURN LOSS (dB) |
|--------------------|---------------------------|------------------------|
| 1900 | 4.83 | 2.84 |
| 2000 | 4.40 | 3.15 |
| 2100 | 4.02 | 3.49 |
| 2200 | 3.66 | 3.85 |
| 2300 | 3.34 | 4.24 |
| 2400 | 3.03 | 4.68 |
| 2500 | 2.76 | 5.16 |
| 2600 | 2.50 | 5.68 |
| 2700 | 2.26 | 6.26 |
| 2800 | 2.05 | 6.90 |
| 2900 | 1.85 | 7.63 |
| 3000 | 1.67 | 8.44 |
| 3100 | 1.52 | 9.36 |
| 3200 | 1.39 | 10.42 |
| 3300 | 1.28 | 11.53 |
| 3400 | 1.19 | 12.73 |
| 3480 | 1.13 | 13.75 |
| 3500 | 1.12 | 14.06 |
| 3540 | 1.09 | 14.62 |
| 3580 | 1.08 | 15.02 |
| 3600 | 1.07 | 15.29 |
| 3640 | 1.06 | 15.77 |
| 3680 | 1.05 | 16.07 |
| 3700 | 1.05 | 16.27 |
| 3740 | 1.04 | 16.58 |
| 3780 | 1.04 | 16.67 |
| 3800 | 1.04 | 16.73 |
| 3840 | 1.04 | 16.77 |
| 3880 | 1.05 | 16.62 |
| 3900 | 1.06 | 16.51 |
| 3940 | 1.07 | 16.26 |
| 3980 | 1.08 | 15.99 |
| 4000 | 1.08 | 15.84 |
| 4040 | 1.10 | 15.41 |
| 4080 | 1.11 | 15.07 |
| 4100 | 1.13 | 14.90 |
| 4140 | 1.15 | 14.42 |
| 4180 | 1.17 | 14.07 |
| 4200 | 1.18 | 13.91 |
| 4280 | 1.23 | 13.16 |
| 4300 | 1.24 | 13.02 |
| 4340 | 1.27 | 12.60 |
| 4380 | 1.30 | 12.34 |
| 4400 | 1.31 | 12.21 |
| 4500 | 1.39 | 11.49 |
| 4600 | 1.46 | 10.97 |
| 4700 | 1.55 | 10.61 |
| 4800 | 1.68 | 10.46 |
| 4900 | 2.05 | 10.25 |
| 5000 | 2.88 | 8.71 |
| 5200 | 2.41 | 7.43 |
| 5400 | 2.35 | 7.08 |
| 5600 | 2.45 | 6.75 |
| 5800 | 2.59 | 6.50 |
| 6000 | 2.78 | 6.29 |

Typical Performance Curves



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:

- Open style, ceramic base.
- 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.



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F74

DEVICE ORIENTATION IN T&R

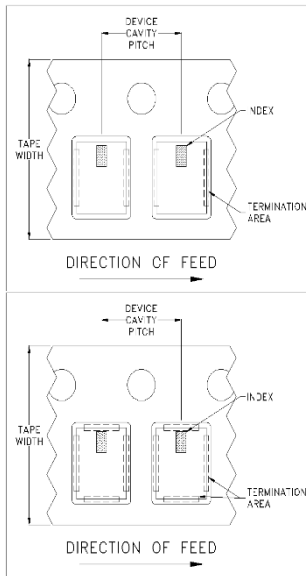


ILLUSTRATION 1

Applicable Case Styles

GE0805C-1
GE0805C-1AP
JV1210C-1
GU2939

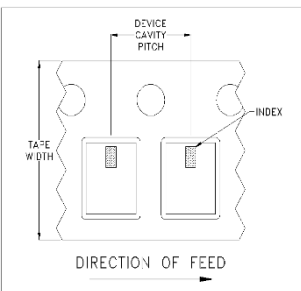


ILLUSTRATION 2

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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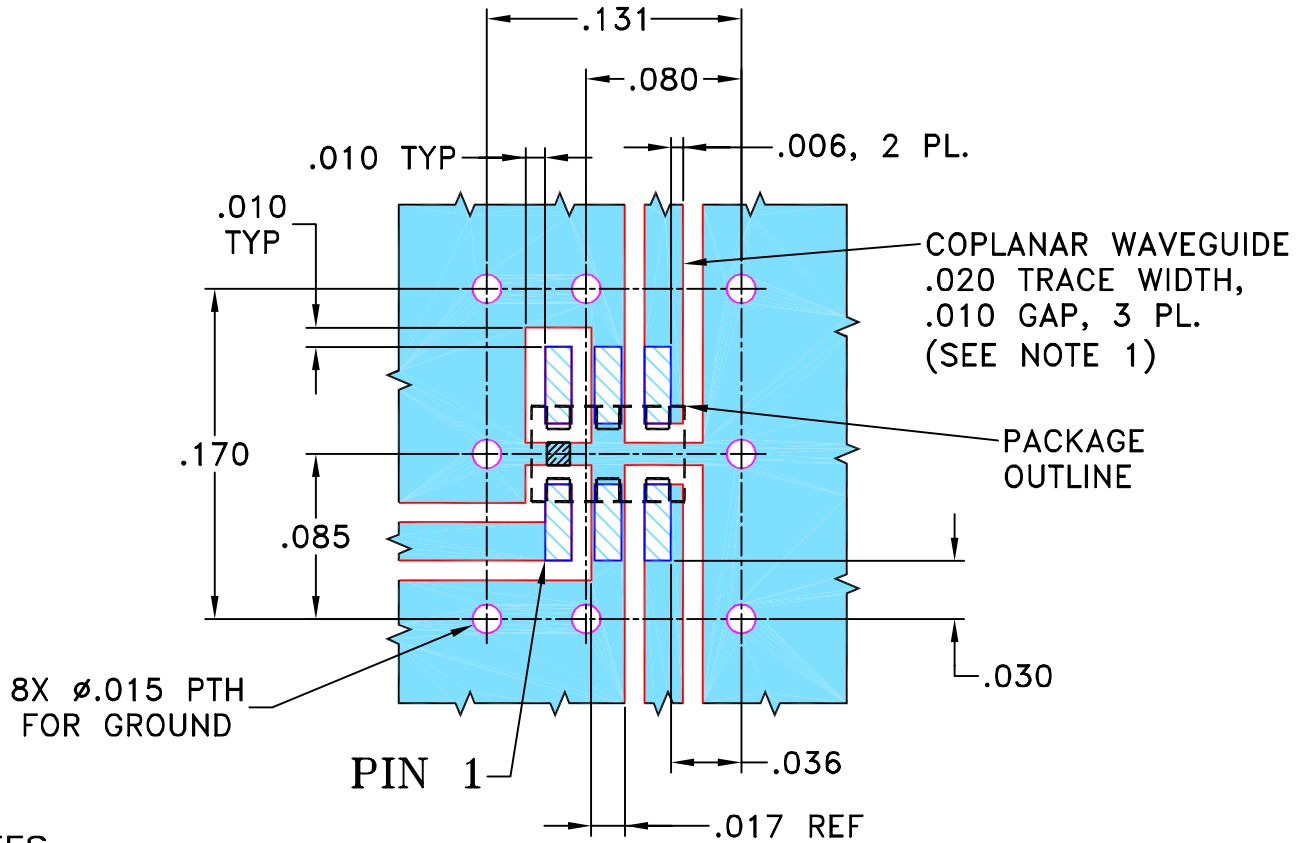
THIRD ANGLE PROJECTION



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.

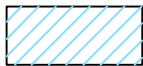


NOTES:

1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS 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

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



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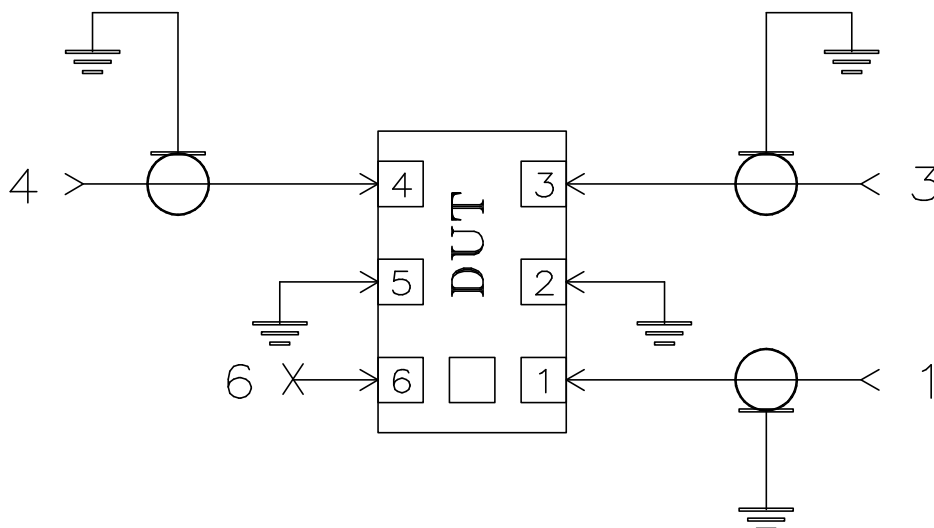
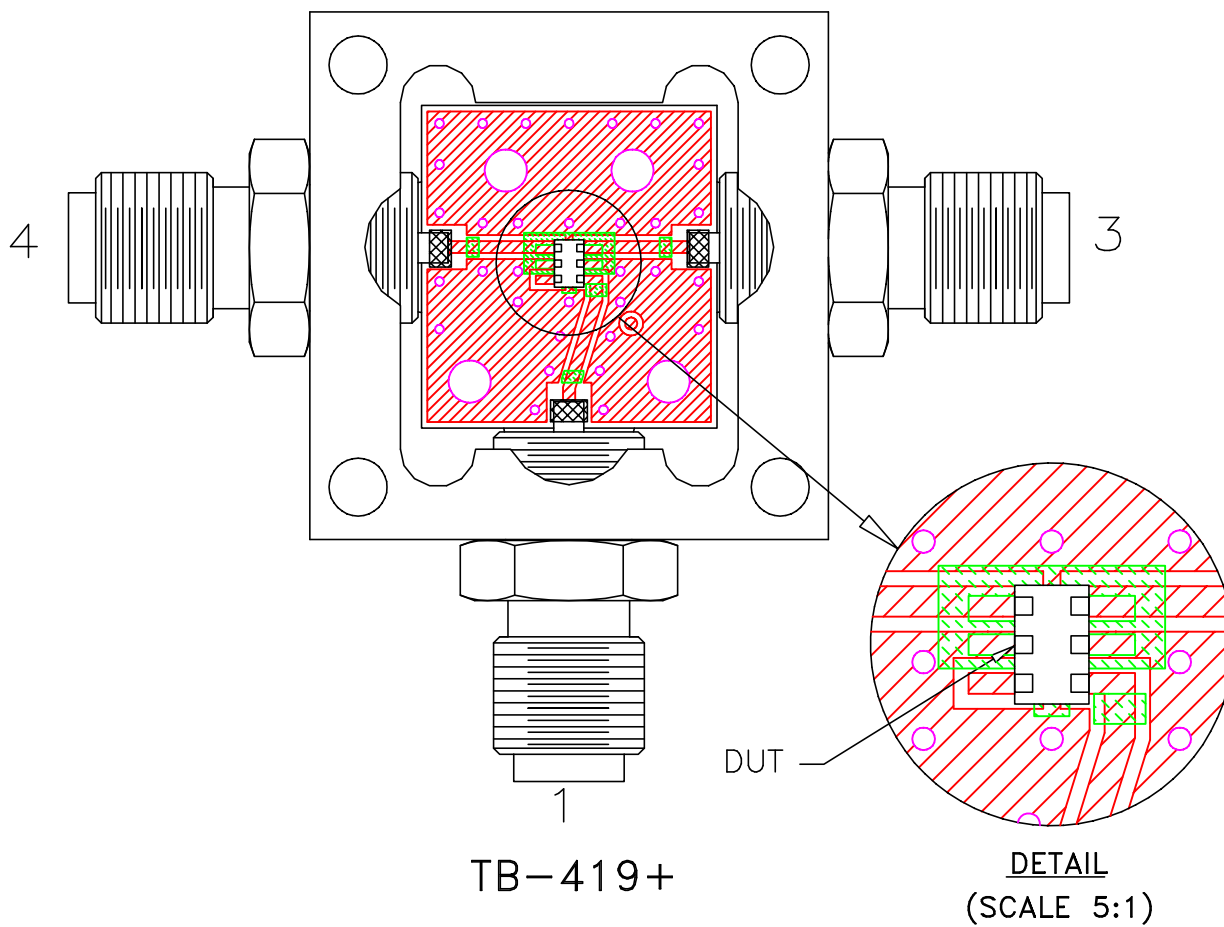
PL, ry, GE0805C-1, NCS, TB-419+

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| SIZE | CODE IDENT | DRAWING NO: | REV: |
|-------|------------|-------------|---------------|
| A | 15542 | 98-PL-264 | OR |
| FILE: | 98PL264 | SCALE: 10:1 | SHEET: 1 OF 1 |

Evaluation Board and Circuit


For Pin Connections refer to Data Sheet of the DUT



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent, Dielectric Constant=3.5, Thickness=.010 inch.

 **Mini-Circuits®**

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 |