Ceramic

Bandpass Filter

BFCG-5600+

50Ω 5150 to 5990 MHz

Generic photo used for illustration purposes only

CASE STYLE: GE0805C-3

+RoHS Compliant

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

Features

- Low loss<2.0 dB typ.
- Rejection up to 16 GHz
- Small size (0.079"x0.049"x0.037")
- Temperature stable
- Hermetically sealed

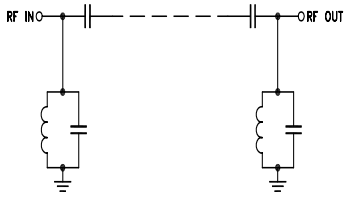
Applications

- Harmonic Rejection
- Transmitters / Receivers
- WiFi / WLAN

Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—			5600		dB
	Insertion Loss	F1 - F2	5150 - 5990	—	1.2	2.2	dB
	VSWR	F1 - F2	5150 - 5990	—	1.6	—	:1
Stop Band, Lower	Insertion Loss	DC - F3	DC - 4200	—	25	—	dB
	VSWR	DC - F3	DC - 4200	—	30	—	:1
Stop Band, Upper	Insertion Loss	F4 - F5	9310 - 15750	—	20	—	dB
	VSWR	F4 - F5	9310 - 15750	—	40	—	:1

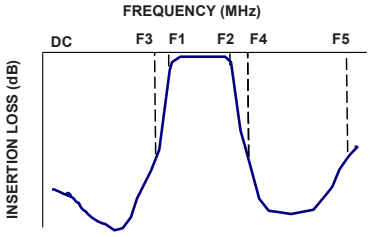
Functional Schematic



Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature[1]	-55°C to 100°C
RF Power Input[2]	0.5W at 25°C

1. 12 months max.
2. Passband rating, derate linearly to 0.125W at 85°C ambient
   Permanent damage may occur if any of these limits are

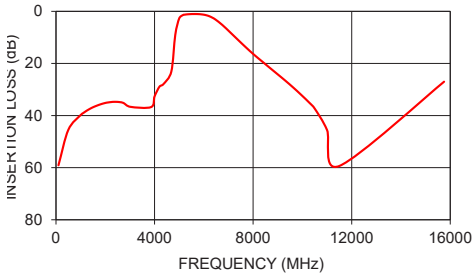
Typical Frequency Response



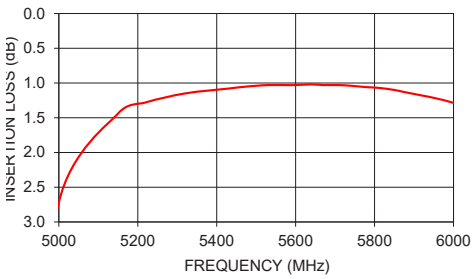
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
100	59.09	174.29
500	45.49	110.80
1000	39.81	95.13
2510	34.76	86.40
3020	36.65	78.27
4200	28.90	32.67
4840	9.06	5.90
5150	1.44	1.06
5990	1.27	1.70
6470	3.13	3.83
8030	16.59	46.23
9310	26.63	386.49
10300	35.24	61.58
11500	59.35	109.64
15750	27.00	45.89

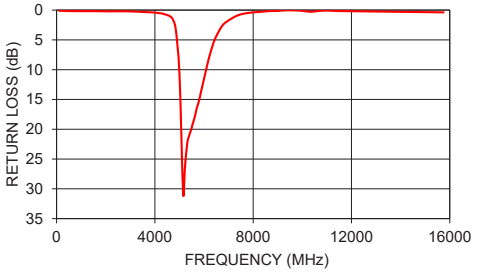
BFCG-5600+
INSERTION LOSS



BFCG-5600+
INSERTION LOSS (Zoomed)



BFCG-5600+
RETURN LOSS



Notes

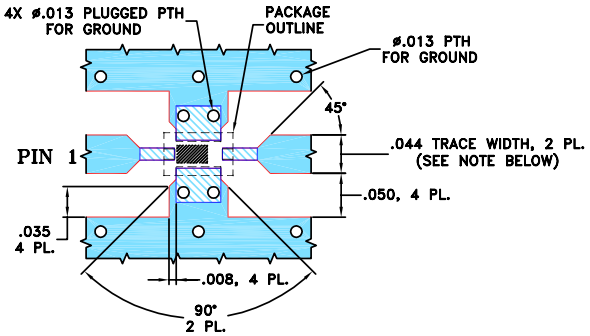
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

Pad Connections

INPUT	1
OUTPUT	3
GROUND	2,4

Product Marking: N/A

Evaluation Board MCL P/N: TB-703+
Suggested PCB Layout (PL-397)



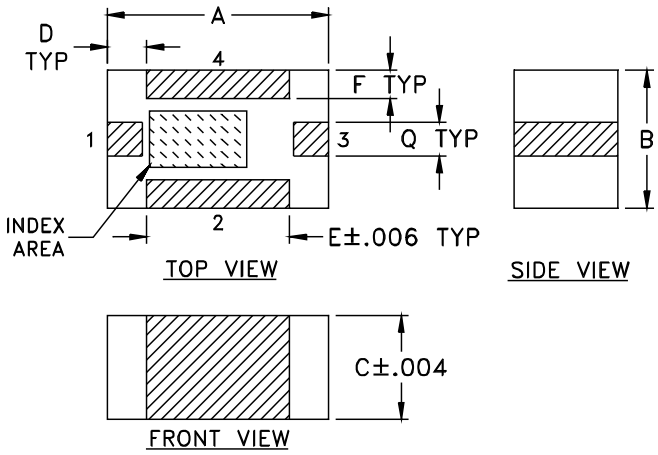
NOTES:

1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015". 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



Outline Dimensions (inch / mm)

A	B	C	D	E	F	Q	wt
.079	.049	.037	.014	.051	.010	.012	grams
2.01	1.24	0.94	0.36	1.30	0.25	0.30	.020

Ceramic Bandpass Filter BFCG-5600+

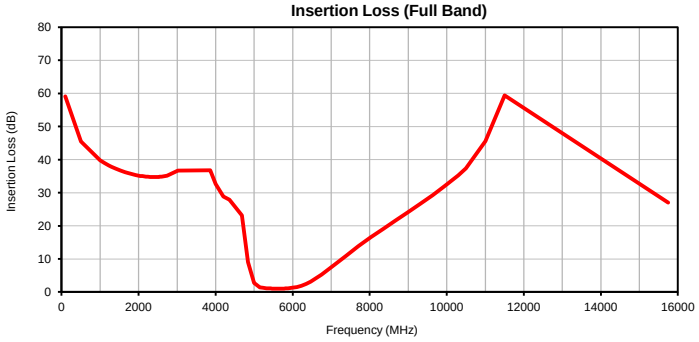
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (ns)
100.0	59.09	0.10	200.0	0.05
500.0	45.49	0.16	500.0	0.04
1000.0	39.81	0.18	1000.0	0.03
1110.0	39.01	0.18	1110.0	0.03
1230.0	38.23	0.18	1230.0	0.03
1290.0	37.88	0.18	1290.0	0.05
1410.0	37.24	0.18	1410.0	0.03
1530.0	36.69	0.18	1530.0	0.04
1650.0	36.23	0.19	1650.0	0.03
1710.0	36.01	0.19	1710.0	0.02
1800.0	35.71	0.19	1800.0	0.03
1920.0	35.36	0.20	1920.0	0.03
2040.0	35.08	0.21	2040.0	0.04
2100.0	34.99	0.21	2100.0	0.03
2190.0	34.87	0.21	2190.0	0.04
2240.0	34.82	0.21	2240.0	0.03
2300.0	34.75	0.20	2300.0	0.03
2410.0	34.73	0.20	2410.0	0.04
2510.0	34.76	0.20	2510.0	0.04
2530.0	34.78	0.20	2530.0	0.04
2550.0	34.80	0.20	2550.0	0.04
2600.0	34.86	0.20	2600.0	0.04
2740.0	35.17	0.21	2740.0	0.05
3020.0	36.65	0.22	3020.0	0.05
3860.0	36.74	0.38	3860.0	0.03
4000.0	32.65	0.42	4000.0	0.10
4200.0	28.90	0.53	4200.0	0.15
4360.0	27.93	0.65	4360.0	0.18
4680.0	23.14	1.25	4680.0	0.08
4840.0	9.06	2.97	4840.0	0.88
5000.0	2.72	10.68	5000.0	0.97
5150.0	1.44	30.72	5150.0	0.65
5220.0	1.28	26.61	5220.0	0.55
5320.0	1.15	22.25	5320.0	0.47
5430.0	1.08	20.64	5430.0	0.41
5460.0	1.06	20.28	5460.0	0.39
5500.0	1.04	19.71	5500.0	0.38
5530.0	1.03	19.25	5530.0	0.37
5570.0	1.03	18.69	5570.0	0.36
5600.0	1.03	18.27	5600.0	0.35
5640.0	1.02	17.64	5640.0	0.35
5670.0	1.03	17.07	5670.0	0.33
5710.0	1.03	16.39	5710.0	0.33
5740.0	1.04	16.00	5740.0	0.33
5780.0	1.06	15.45	5780.0	0.33
5810.0	1.07	14.97	5810.0	0.32
5850.0	1.10	14.25	5850.0	0.32
5875.0	1.13	13.76	5875.0	0.32
5990.0	1.27	11.72	5990.0	0.31
6110.0	1.52	9.56	6110.0	0.30
6230.0	1.90	7.60	6230.0	0.30
6350.0	2.45	5.96	6350.0	0.28
6470.0	3.13	4.64	6470.0	0.27
6750.0	5.22	2.58	6750.0	0.22
7070.0	8.07	1.55	7070.0	0.16
7390.0	10.98	0.86	7390.0	0.12
7710.0	13.85	0.53	7710.0	0.09
8030.0	16.59	0.38	8030.0	0.06
8350.0	19.11	0.28	8350.0	0.05
8670.0	21.63	0.16	8670.0	0.05
8990.0	24.12	0.14	8990.0	0.05
9310.0	26.63	0.04	9310.0	0.03
9630.0	29.26	0.05	9630.0	0.02
9950.0	32.04	0.10	9950.0	0.02
10300.0	35.24	0.28	10300.0	0.02
10500.0	37.34	0.22	10500.0	0.02
11000.0	45.55	0.07	10700.0	0.02
11500.0	59.35	0.16	10800.0	0.04
15750.0	27.00	0.38	15750.0	0.05

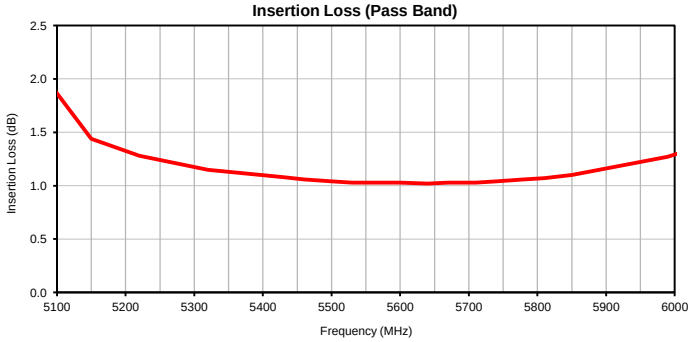
Ceramic Bandpass Filter BFCG-5600+

Typical Performance Curves

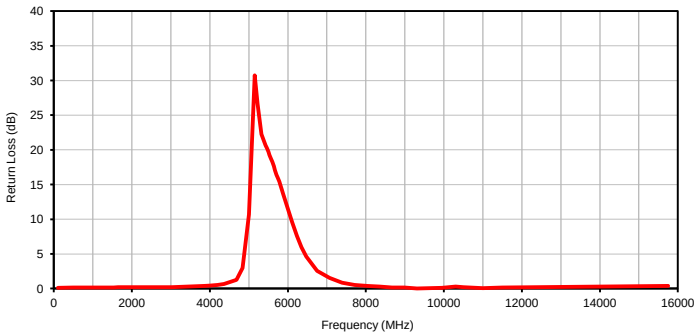
Insertion Loss (Full Band)



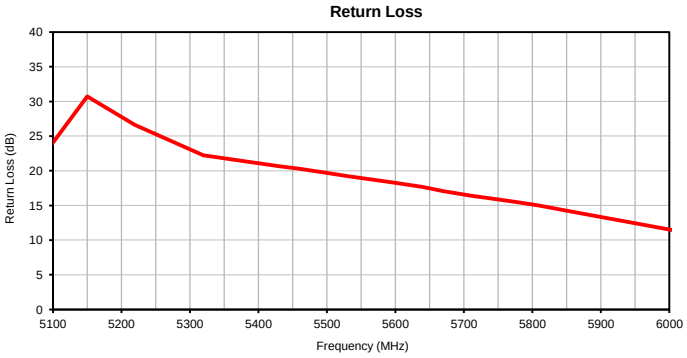
Insertion Loss (Pass Band)



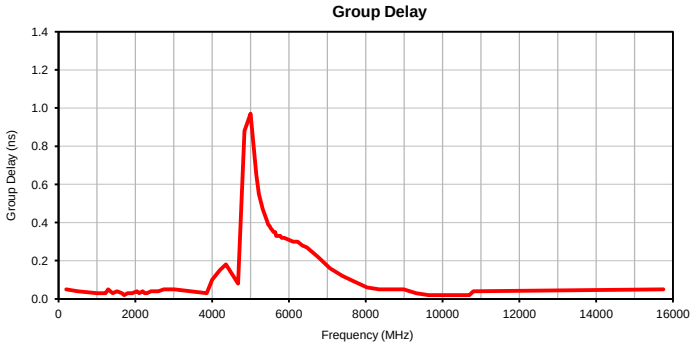
Return Loss



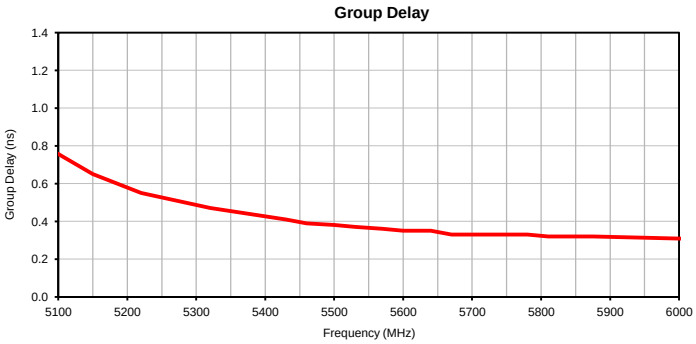
Return Loss



Group Delay

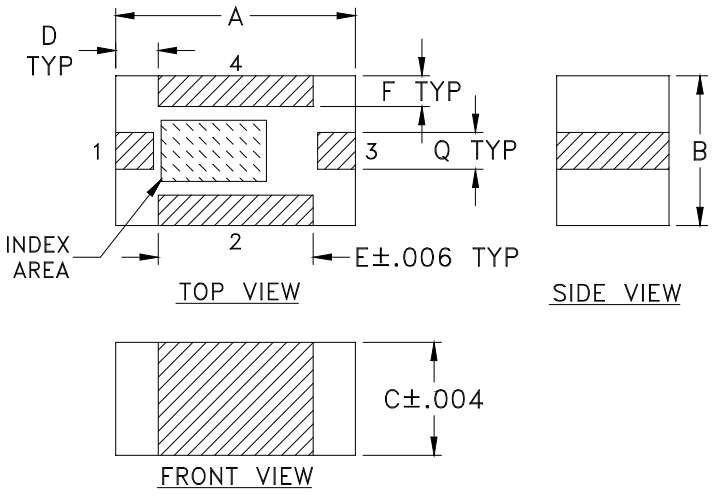


Group Delay

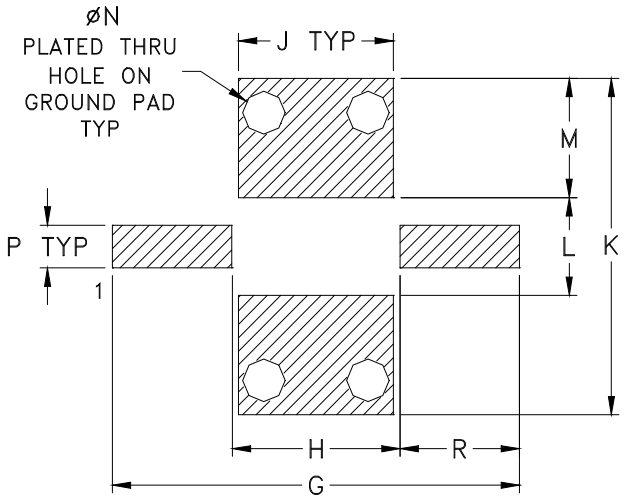


GE0805C-3

Outline Dimensions



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

CASE #	A	B	C	D	E	F	G	H	J	K	L
GE0805C-3	.079 (2.00)	.049 (1.25)	.037 (0.95)	.014 (0.35)	.051 (1.30)	.010 (0.25)	.134 (3.40)	.055 (1.40)	.051 (1.30)	.110 (2.80)	.032 (0.80)

CASE #	M	N	P	Q	R	WT. GRAM
GE0805C-3	.039 (1.00)	.014 (0.35)	.014 (0.35)	.012 (0.30)	.039 (1.00)	.020

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 Styles: Tin-Lead plate over Nickel plate. All models, no (+) suffix.

Tape & Reel Packaging TR-F114

DEVICE ORIENTATION IN T&R

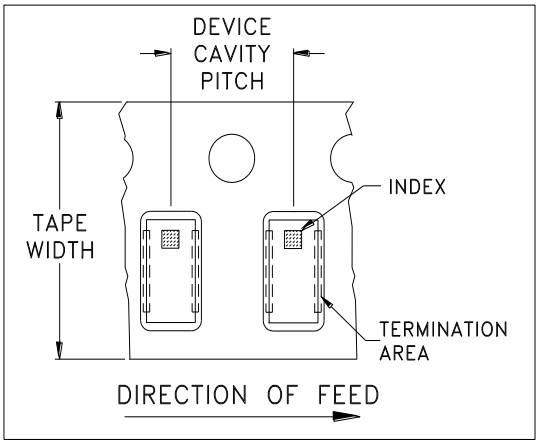


ILLUSTRATION 1

Applicable Case Styles	
GE0805C	JC0603C
GE0805C-1	JC0603C-4
GE0805C-1AP	JC0603C-6
GE0805C-7	
GE0805C-9	
GE0805C-10	
GE0805C-11	
GE0805C-12	

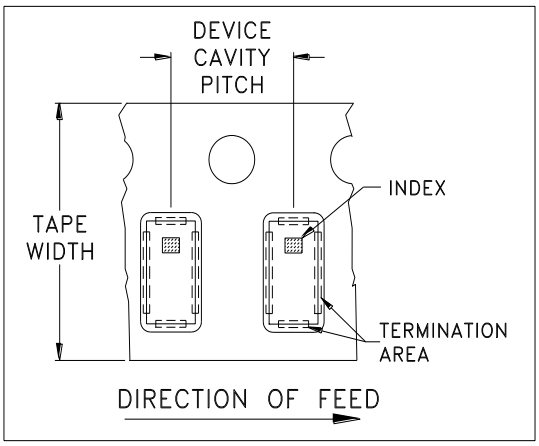


ILLUSTRATION 2

Applicable Case Styles	
GE0805C-2	JC0603C-1
GE0805C-3	JC0603C-2
GE0805C-4	JC0603C-3
GE0805C-5	JC0603C-5
GE0805C-6	JC0603C-7
GE0805C-8	
GE0805C-15	

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

Note: Please Consult individual model data sheet to determine device per reel availability.

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.

Go to: www.minicircuits.com/pages/pdfs/tape.pdf

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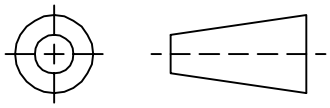
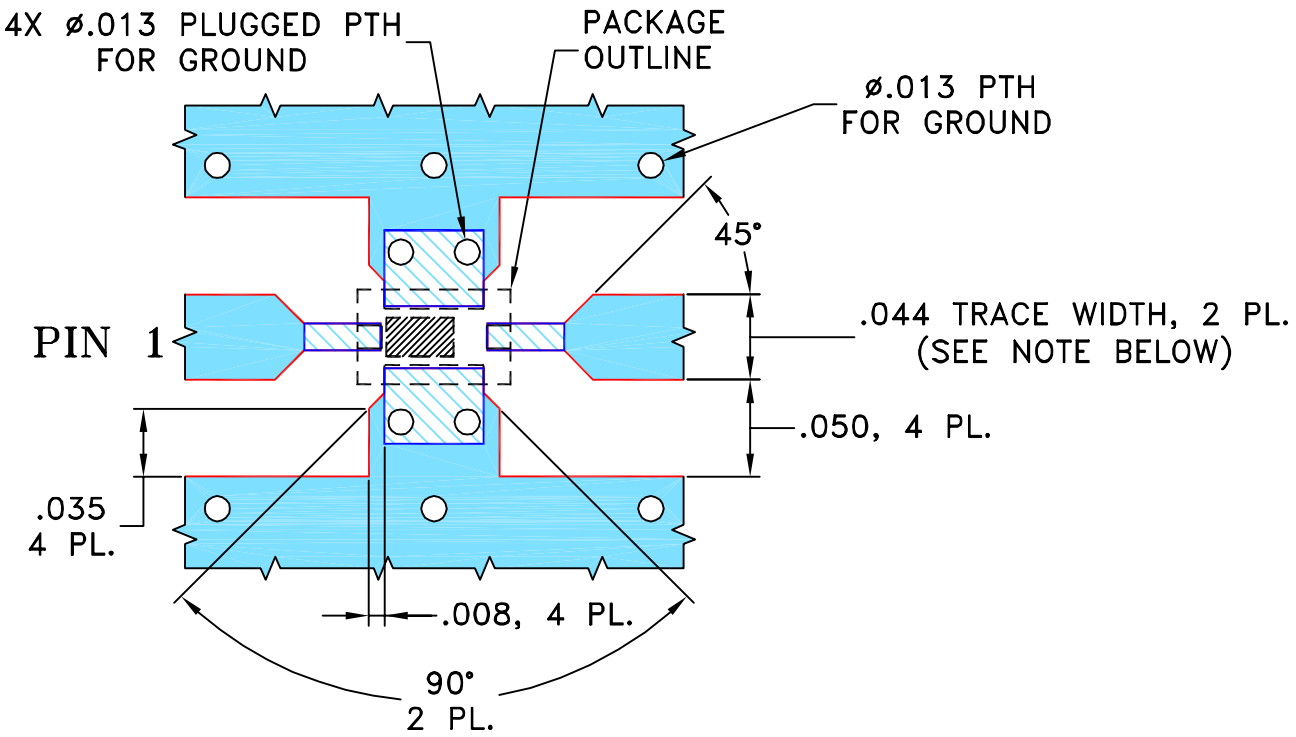
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M143028	NEW RELEASE	09/03/13	AV	CH

SUGGESTED MOUNTING CONFIGURATION FOR GE0805C-3 CASE STYLE, "04FL01" PIN CODE



NOTES:

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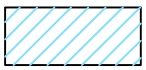


DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

UNLESS OTHERWISE SPECIFIED		INITIALS	DATE
DIMENSIONS ARE IN INCHES	DRAWN	AV	08/21/13
TOLERANCES ON:	CHECKED	IL	09/03/13
2 PL DECIMALS ±	APPROVED	CH	09/03/13
3 PL DECIMALS ± .005			
ANGLES ±			
FRACTIONS ±			

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

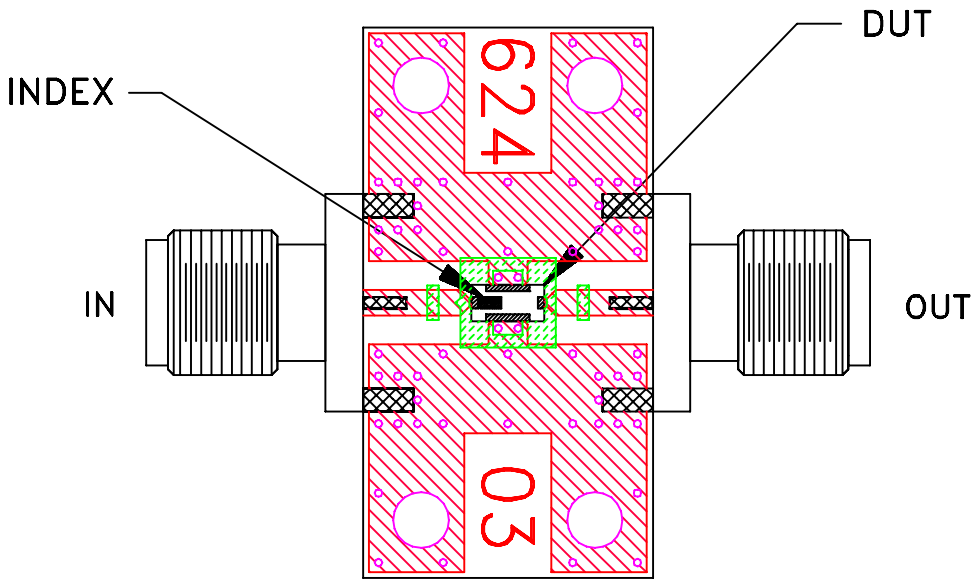
Mini-Circuits® 13 Neptune Avenue Brooklyn NY 11235

PL, 04FL01, GE0805C-3, TB-703+

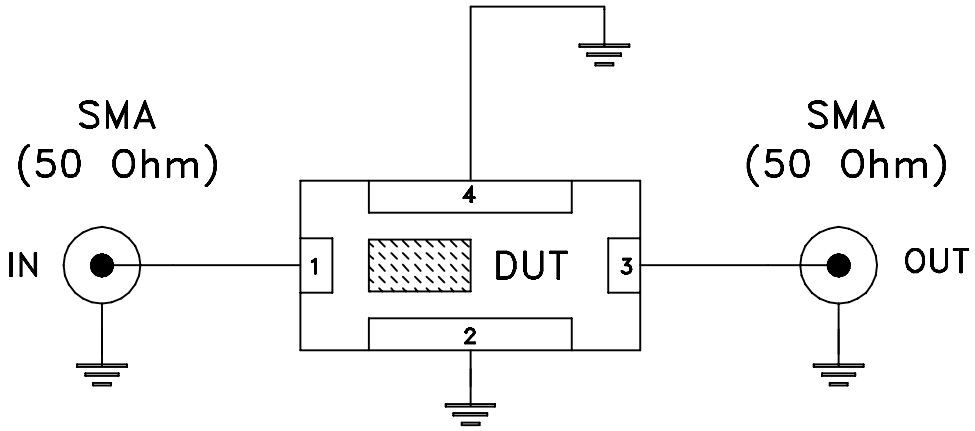
SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-397	OR

FILE:	SCALE:	SHEET:
98PL397	10:1	1 OF 1

Evaluation Board and Circuit



TB-703+



Schematic Diagram

Notes:

1. 50 Ohm SMA Female connectors.
2. PCB Material: RO4350 or equivalent,
   Dielectric Constant=3.5, Thickness=.020 inch.

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Environmental Specifications **ENV28T5**

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	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
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	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I