

Ceramic Bandpass Filter

BFCG-5600+

50Ω 5150 to 5990 MHz



Generic photo used for illustration purposes only

CASE STYLE: GE0805C-3

Features

- Low loss < 2.0 dB typ.
- Rejection up to 16 GHz
- Small size (0.079" x 0.049" x 0.037")
- Temperature stable
- Hermetically sealed

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

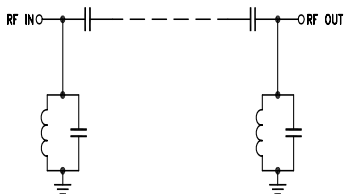
Applications

- 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

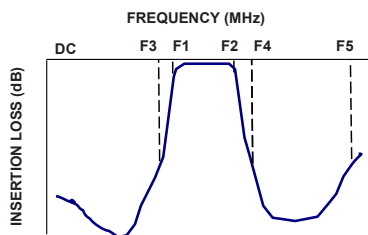
Operating Temperature	-40°C to 85°C
Storage Temperature ¹	-55°C to 100°C
RF Power Input ²	0.5W at 25°C

1. 12 months max.

2. Passband rating, derate linearly to 0.125W at 85°C ambient

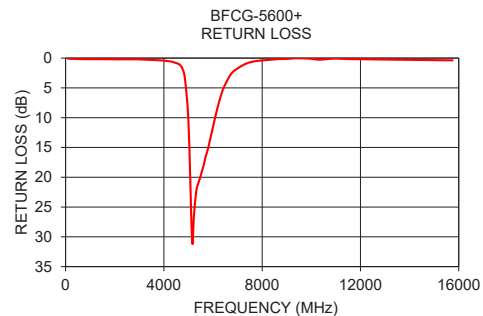
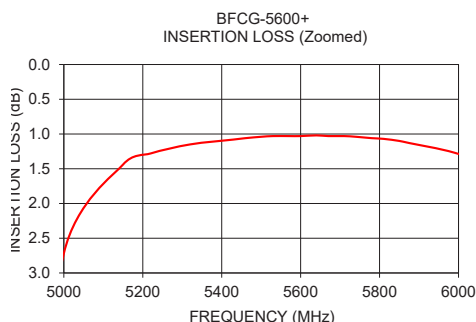
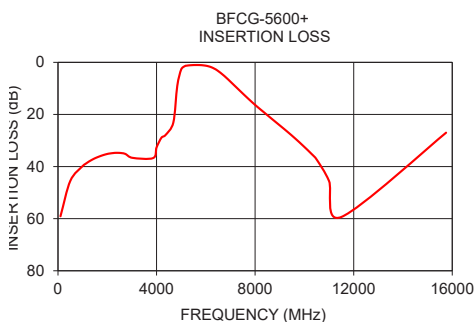
Permanent damage may occur if any of these limits are

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



Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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REV. A
M151107
ED-15034
BFCG-5600+
WZ/CP/AM
200611

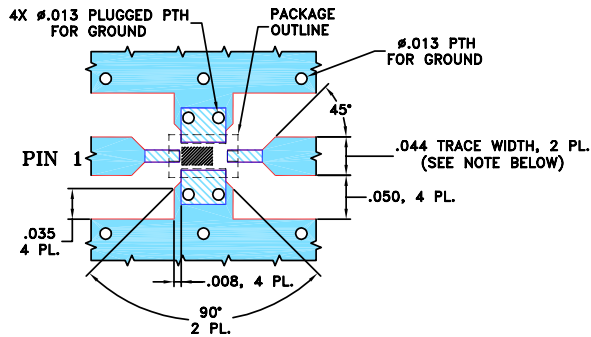
Page 1 of 2

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)



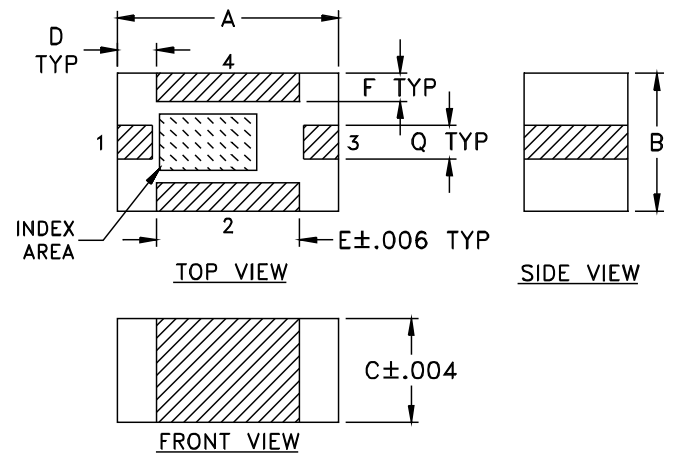
NOTES:

- TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS $.020 \pm .0015$ ". 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 ($\frac{\text{inch}}{\text{mm}}$)

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

Notes

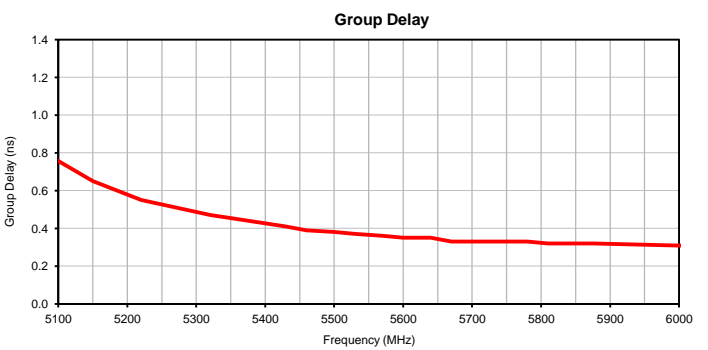
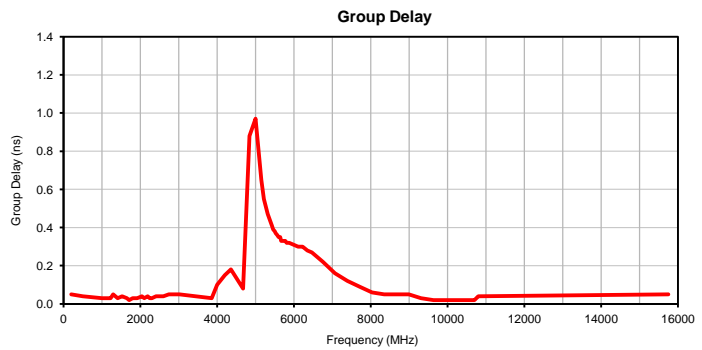
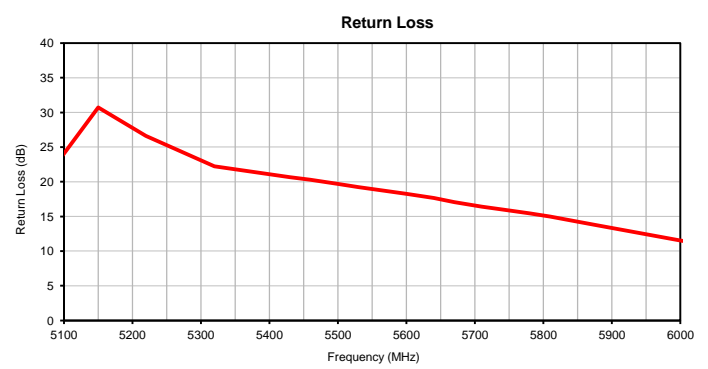
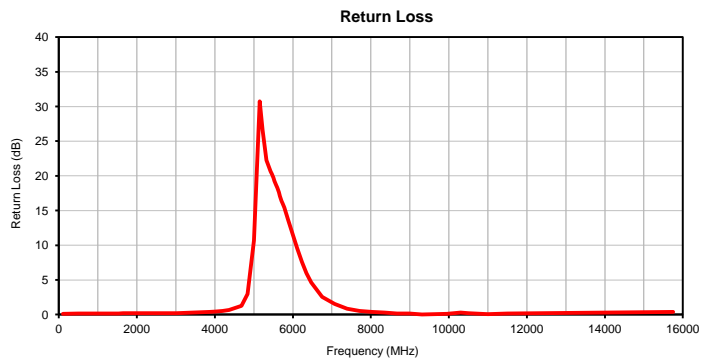
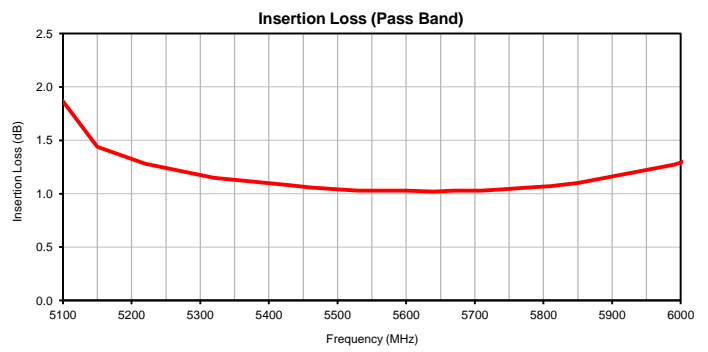
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Typical Performance Data

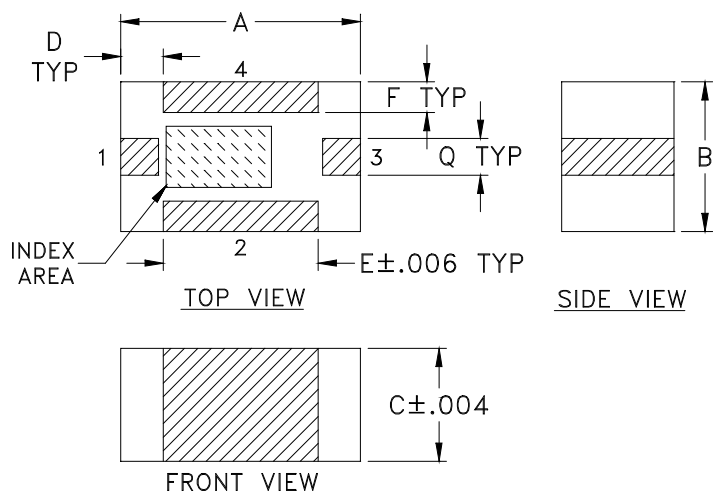
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (ns)
100.0	59.09	0.10	200.0	0.05
500.0	45.49	0.16	500.0	0.04
1000.0	39.81	0.18	1000.0	0.03
1110.0	39.01	0.18	1110.0	0.03
1230.0	38.23	0.18	1230.0	0.03
1290.0	37.88	0.18	1290.0	0.05
1410.0	37.24	0.18	1410.0	0.03
1530.0	36.69	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



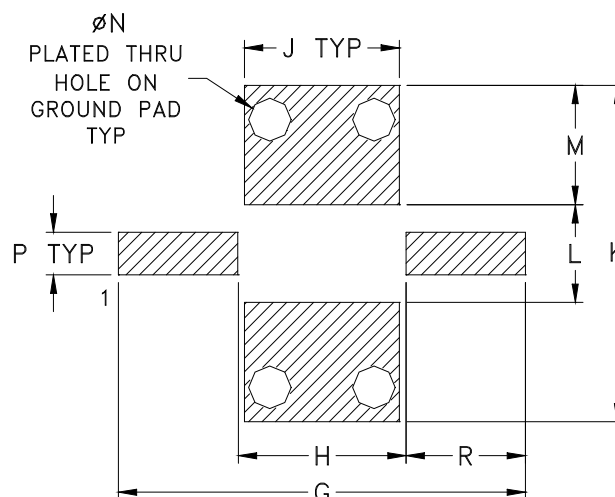
Typical Performance Curves



Outline Dimensions



PCB Land Pattern



Suggested Layout,
Tolerance to be within $\pm .002$

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. $\pm .01$; 3 Pl. $\pm .005$

Notes:

- Open style, ceramic base.
- 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.



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RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F114

DEVICE ORIENTATION IN T&R

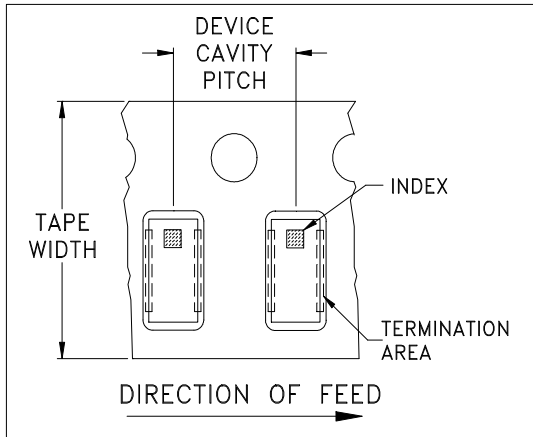


ILLUSTRATION 1

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

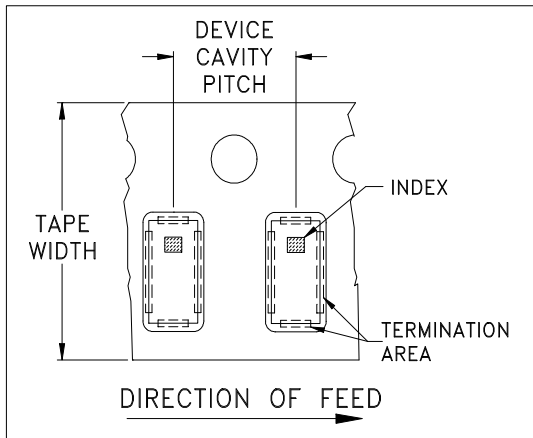


ILLUSTRATION 2

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	JV1210C-1
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.

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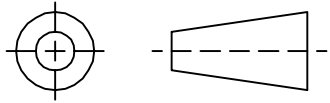
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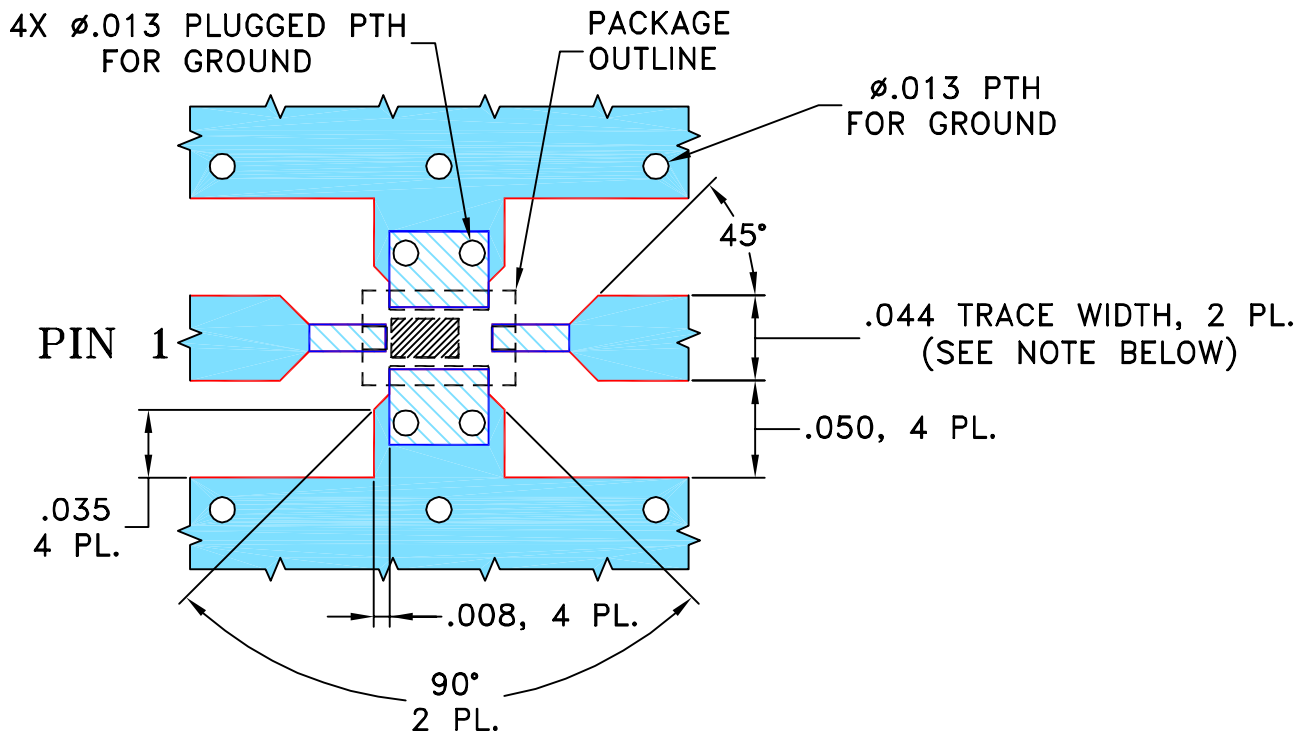
THIRD ANGLE PROJECTION



REVISIONS

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

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



NOTES:

1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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.

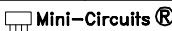
 DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).

 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

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 ±		

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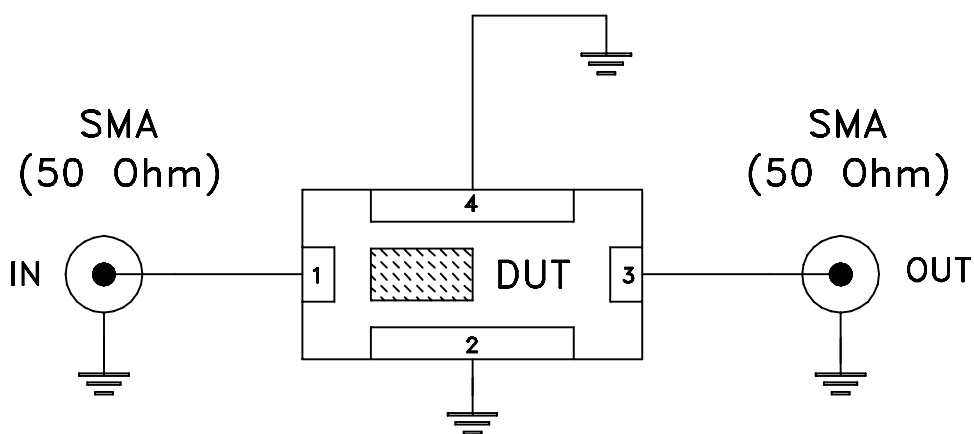
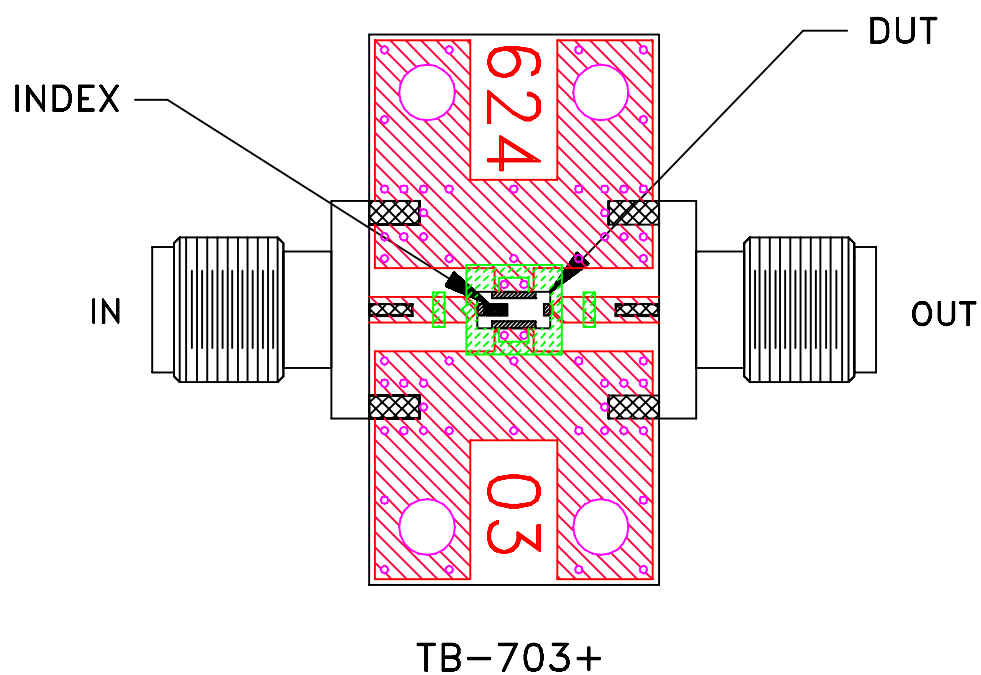
PL, 04FL01, GE0805C-3, TB-703+

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

SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-397	OR
FILE:	98PL397	SCALE: 10:1	SHEET: 1 OF 1


Evaluation Board and Circuit



Schematic Diagram

Notes:

1. 50 Ohm SMA Female connectors.
2. PCB Material: R04350 or equivalent,
Dielectric Constant=3.5, Thickness=.020 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	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