

Diplexer

DC to 5750 MHz (DC-2700, 4900-5750 MHz)

Operating Temperature	-55°C to 100°C
Storage Temperature*	-55°C to 100°C
RF Power Input**	2W at 25°C

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

Low Pass Port	6
High Pass Port	4
Common Port	2
Ground	1,3,5

Suggested Layout,
Tolerance to be within ± 0.02

A	B	C	D	E	F
.079	.049	.020	.014	.012	.012
2.01	1.24	0.51	0.36	0.30	0.30
G	H	J	K		wt
.026	.014	.039	.110		grams
0.66	0.36	1.00	2.80		.005

5X #.008 PTH FOR GROUND

COPLANAR WAVEGUIDE:
 .022 TRACE WIDTH &
 .014 GAP, 3 PL.
 (SEE NOTE BELOW)

.010 3 PL.
 .018 2 PL.

1

14X #.013 PTH FOR GROUND

PACKAGE

 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

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- small size 0805(2.0 x 1.25 mm)
- low insertion loss, 0.7 dB typ.
- high rejection
- temperature stable
- LTCC construction

- communication systems
- ISM
- WiFi



CASE STYLE: GE0805C-10

+RoHS Compliant

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



Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500, 1000, 4000

Parameter		Port	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	Low Pass	DC - 2700	—	0.5	0.9	dB
		Band Pass	4900 - 5750	—	0.7	0.9	
	Return Loss	Low Pass	2300 - 2700	10	16	—	dB
		Band Pass	4900 - 5750	10	14	—	
		Common	2300 - 2700	—	16	—	
			4900 - 5750	—	14	—	
Stop Band Isolation		Band Pass	DC - 2700	18	23	—	dB
			9800- 11900	—	17	—	
		Low Pass	4800 - 8000	20	30	—	dB

¹ In Application where DC voltage is present at either input or output port, coupling capacitors are required.

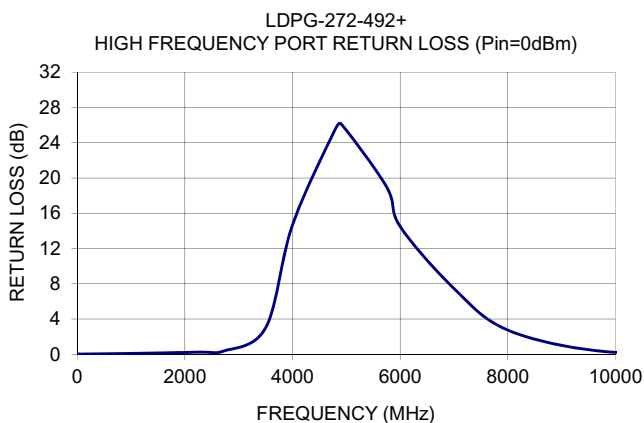
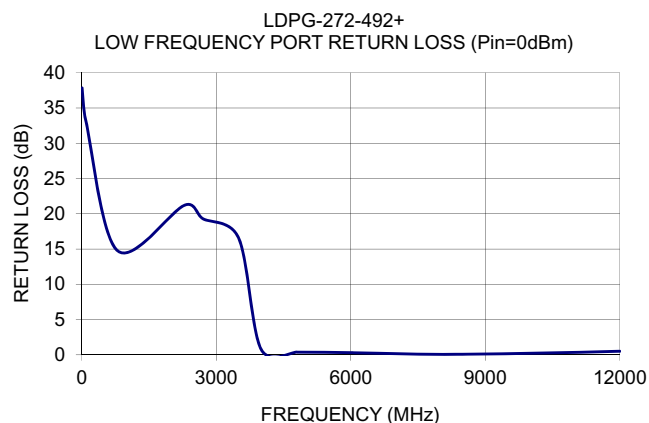
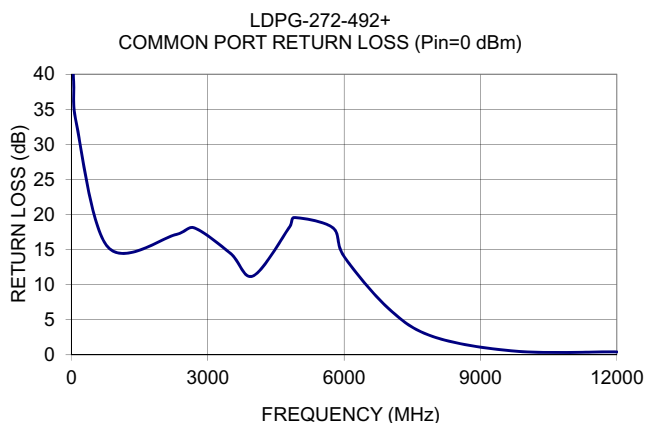
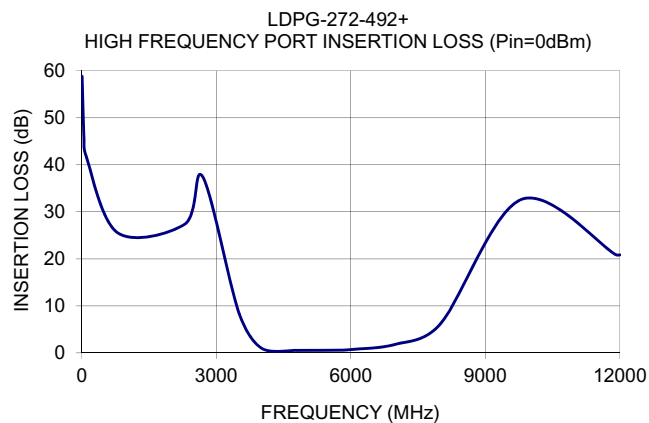
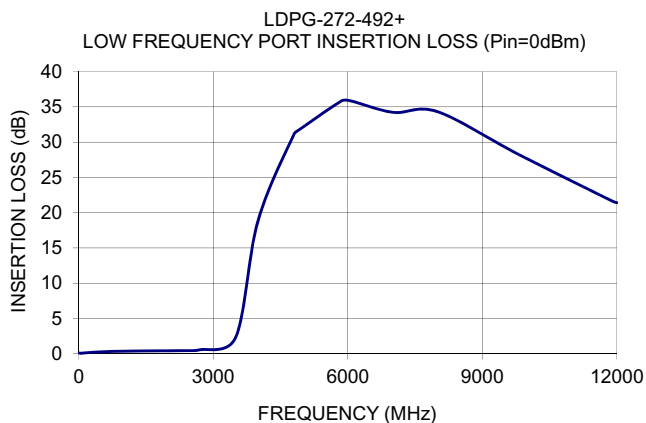
² Measured on Mini-Circuits Characterization Test Board TB-798+

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)		
	Low Pass Port	High Pass Port	Common Port	Low Pass Port	High Pass Port
10	0.10	58.83	47.75	37.84	0.04
50	0.05	45.92	38.49	34.75	0.03
100	0.10	41.84	33.28	32.98	0.03
800	0.34	25.56	15.37	14.76	0.08
2300	0.43	27.39	17.15	21.24	0.25
2700	0.56	37.44	18.10	19.31	0.33
3500	2.30	8.69	14.46	16.57	3.00
4000	18.88	1.05	11.25	0.80	14.70
4800	31.11	0.54	18.24	0.39	25.61
4900	31.67	0.54	19.56	0.38	26.15
5750	35.40	0.59	18.12	0.33	18.97
6000	35.94	0.72	14.00	0.31	14.49
7000	34.23	1.84	6.46	0.17	7.46
8000	34.32	6.18	2.51	0.07	2.74
9800	28.29	32.63	0.51	0.19	0.31
11900	21.63	20.94	0.43	0.49	0.51
12000	21.41	20.85	0.41	0.51	0.57

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REV. A
M151107
LDPG-272-492+
ED-16419/22
MY/CP/AM
190924
Page 1 of 2



Notes

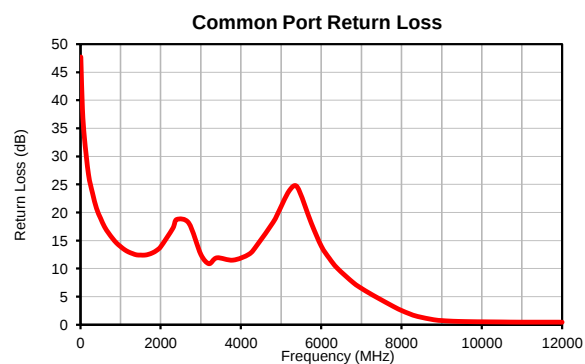
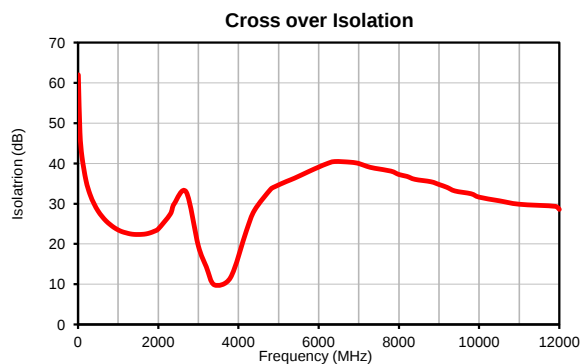
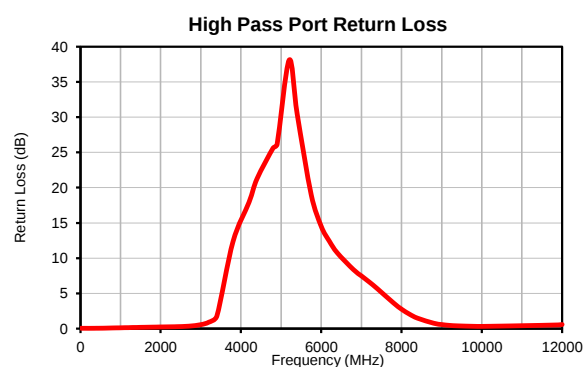
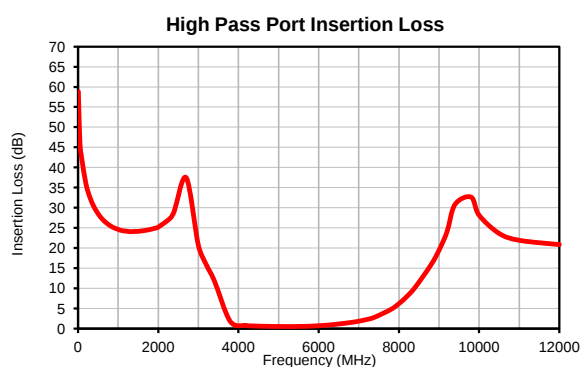
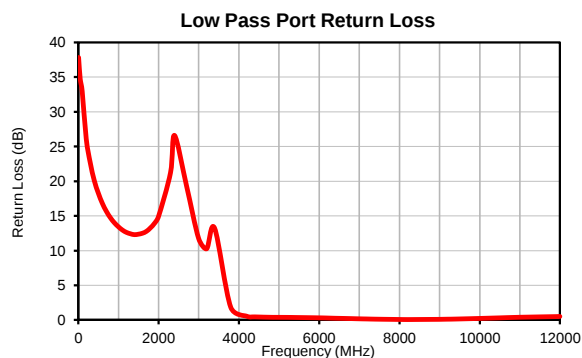
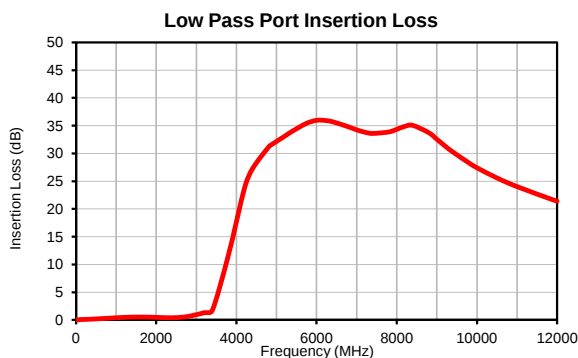
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- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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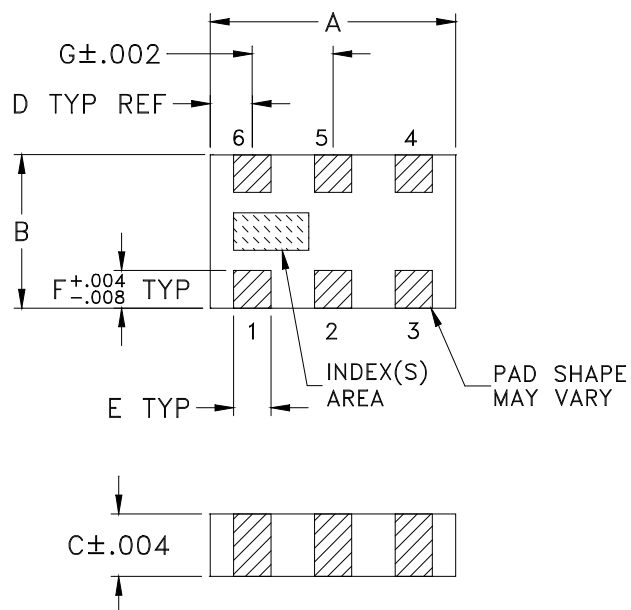
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS		CROSS OVER ISOLATION (dB) (between LPF and HPF)	RETURN LOSS		
	(dB)			(dB)		
	Low Pass port	High Pass port		Common port	Low Pass port	High Pass port
10.0	0.10	58.83	62.01	47.75	37.84	0.04
50.0	0.05	45.92	47.73	38.49	34.75	0.03
100.0	0.10	41.84	41.73	33.28	32.98	0.03
200.0	0.12	35.89	35.78	26.83	26.13	0.03
300.0	0.15	32.52	32.34	23.48	22.67	0.03
400.0	0.18	30.20	30.02	20.74	20.11	0.04
500.0	0.22	28.54	28.21	18.98	18.31	0.04
600.0	0.26	27.24	26.85	17.44	16.84	0.05
700.0	0.30	26.30	25.73	16.33	15.68	0.07
800.0	0.34	25.56	24.85	15.37	14.76	0.08
900.0	0.38	25.00	24.10	14.54	14.02	0.09
1000.0	0.42	24.62	23.51	13.92	13.45	0.10
1100.0	0.46	24.31	23.06	13.36	12.97	0.12
1200.0	0.50	24.19	22.77	12.95	12.63	0.13
1300.0	0.52	24.06	22.52	12.66	12.43	0.15
1400.0	0.54	24.10	22.39	12.43	12.30	0.15
1500.0	0.55	24.13	22.37	12.40	12.37	0.17
1600.0	0.55	24.25	22.40	12.39	12.50	0.18
1700.0	0.55	24.40	22.51	12.54	12.78	0.19
1800.0	0.54	24.59	22.77	12.81	13.28	0.20
1900.0	0.52	24.86	23.16	13.24	13.93	0.21
2000.0	0.50	25.17	23.71	13.88	14.90	0.22
2300.0	0.43	27.39	27.40	17.15	21.24	0.25
2400.0	0.43	29.10	29.99	18.75	26.60	0.26
2700.0	0.56	37.44	32.90	18.10	19.31	0.33
3000.0	0.97	20.74	19.57	12.50	11.76	0.55
3200.0	1.36	15.83	14.31	10.86	10.26	0.91
3400.0	1.76	11.88	9.85	11.91	13.21	1.79
3800.0	11.65	1.73	11.60	11.49	1.84	12.31
4200.0	23.68	0.78	23.31	12.55	0.54	17.92
4400.0	27.21	0.65	28.35	14.17	0.45	21.26
4800.0	31.11	0.54	33.55	18.24	0.39	25.61
4900.0	31.67	0.54	34.20	19.56	0.38	26.15
5200.0	33.06	0.51	35.54	23.85	0.38	38.09
5400.0	34.00	0.52	36.35	24.56	0.36	30.43
5750.0	35.40	0.59	37.99	18.12	0.33	18.97
6000.0	35.94	0.72	39.10	14.00	0.31	14.49
6200.0	35.92	0.85	39.93	11.82	0.29	12.40
6400.0	35.68	1.03	40.48	10.04	0.25	10.72
6800.0	34.76	1.51	40.31	7.46	0.20	8.37
7000.0	34.23	1.84	40.00	6.46	0.17	7.46
7200.0	33.82	2.26	39.30	5.60	0.15	6.58
7400.0	33.58	2.84	38.81	4.78	0.12	5.63
7800.0	33.85	4.75	38.11	3.21	0.09	3.63
8000.0	34.32	6.18	37.27	2.51	0.07	2.74
8200.0	34.85	7.98	36.80	1.92	0.06	2.03
8400.0	35.03	10.16	36.06	1.44	0.07	1.46
8800.0	33.71	15.80	35.47	0.86	0.09	0.75
9000.0	32.55	19.42	34.79	0.71	0.09	0.56
9200.0	31.35	24.03	34.07	0.62	0.11	0.44
9400.0	30.24	30.81	33.17	0.57	0.13	0.38
9800.0	28.29	32.63	32.48	0.51	0.19	0.31
10000.0	27.41	28.14	31.64	0.49	0.22	0.30
10500.0	25.58	23.61	30.74	0.46	0.31	0.35
11000.0	24.02	21.91	29.88	0.43	0.39	0.40
11900.0	21.63	20.94	29.35	0.43	0.49	0.51
12000.0	21.41	20.85	28.60	0.41	0.51	0.57

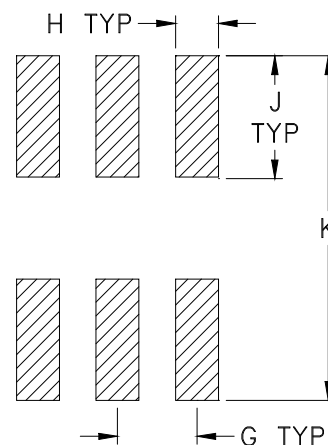
Typical Performance Curves



Outline Dimensions



PCB Land Pattern



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

CASE #	A	B	C	D	E	F	G	H	J	K	WT.GRAM
GE0805C-10	.079 (2.00)	.049 (1.25)	.020 (0.50)	.014 (0.35)	.012 (0.30)	.012 (0.30)	.026 (0.65)	.014 (0.35)	.039 (1.00)	.110 (2.80)	.005

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

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.
3. Line width should be designed to match 50 Ω characteristic depending on PCB material and thickness.



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



Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F114

DEVICE ORIENTATION IN T&R

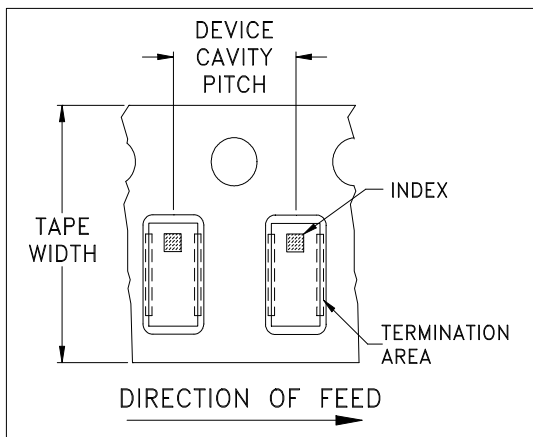


ILLUSTRATION 1

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

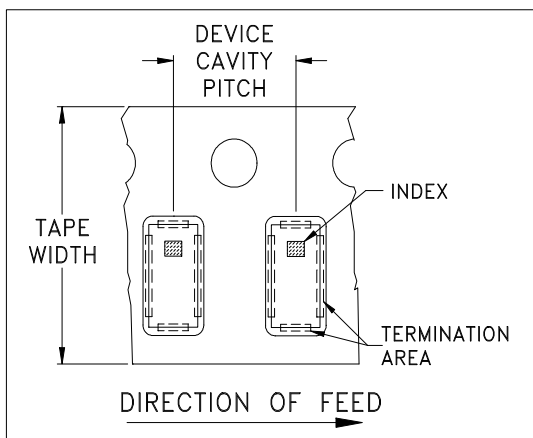


ILLUSTRATION 2

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.

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



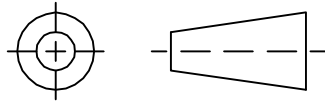
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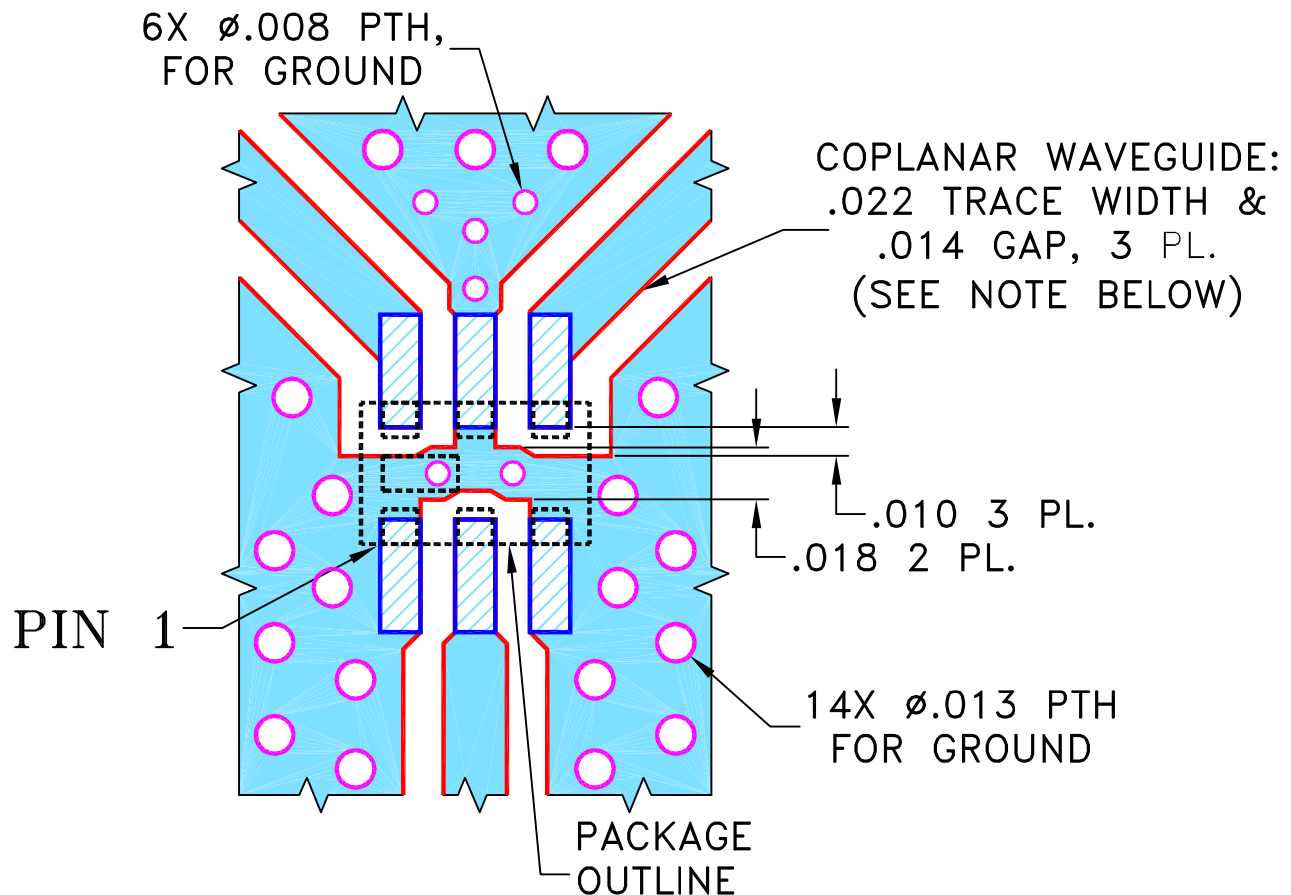
THIRD ANGLE PROJECTION



REVISIONS

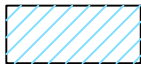
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M148538	NEW RELEASE	10/14/14	GF	MY

SUGGESTED MOUNTING CONFIGURATION
FOR GE0805C-10 CASE STYLE, "06DP03" PIN CODE

NOTES:

1. COPLANAR WAVEGUIDE IS 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.
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

DIMENSIONS ARE IN INCHES

TOLERANCES ON:
2 PL DECIMALS $\pm$
3 PL DECIMALS $\pm$.005
ANGLES $\pm$
FRACTIONS $\pm$

INITIALS

DATE

DRAWN	GF	10/07/14
CHECKED	AV	10/14/14
APPROVED	MY	10/14/14

**Mini-Circuits®**13 Neptune Avenue
Brooklyn NY 11235

PL, 06DP03, GE0805C-10, TB-798+

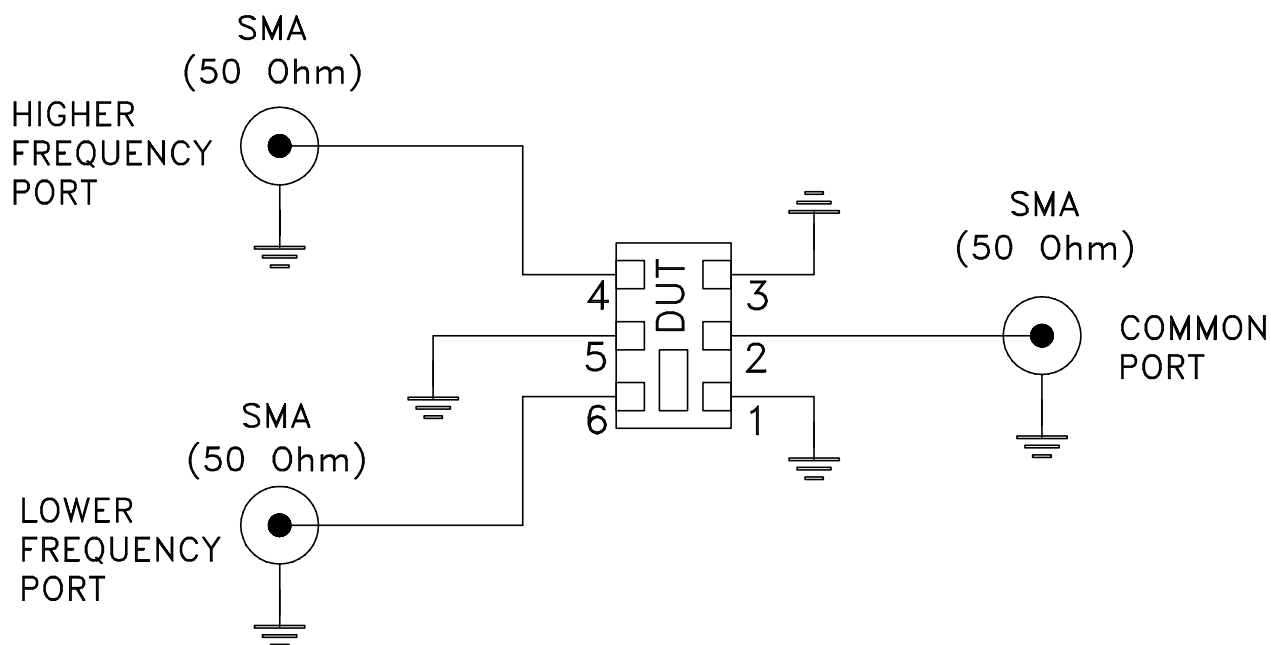
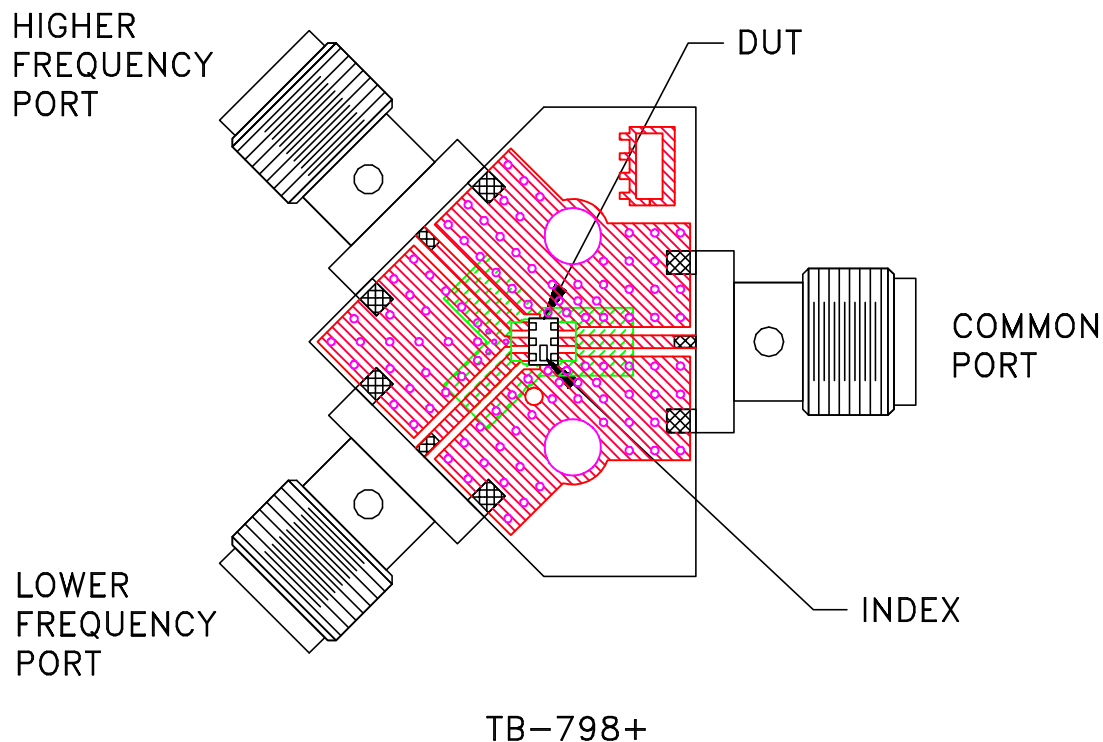
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ASHEETA1.DWG REV:A DATE:01/12/95

SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-441	OR
FILE:	98PL441	SCALE: 15:1	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=.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	-55° to 100°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
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