

Ceramic Balance Filter

50Ω 690 to 1570 MHz

Features

- Small size (0.126"x0.098"x0.039")
- Temperature stable
- Hermetically sealed
- LTCC construction

Applications

- ISM
- Cellular

BLFCV-1570+



Generic photo used for illustration purposes only

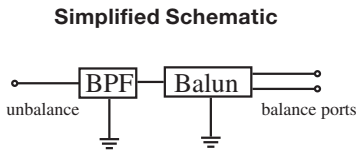
CASE STYLE: JV1210C-4

+RoHS Compliant

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

Available Tape and Reel at no extra cost

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



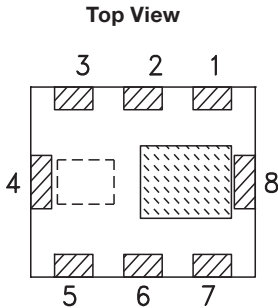
Electrical Specifications at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio			2:1			
Insertion Loss	F1-F2	690 - 1570	—	—	3.0	dB
Attenuation		2200-5050	25	—	—	dB
		5050-6000	20	—	—	dB
Amplitude Unbalance		690 - 1570	—	—	1.5	dB
Phase Unbalance		690 - 1570	—	—	15	degree
Input VSWR		690 - 1570	—	1.78	—	:1

Maximum Ratings

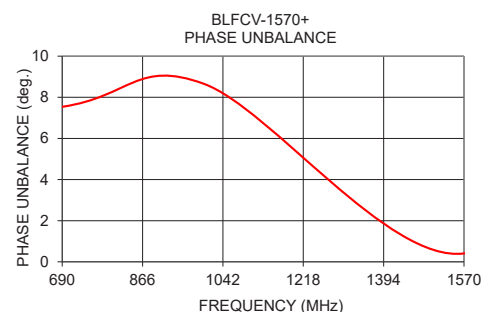
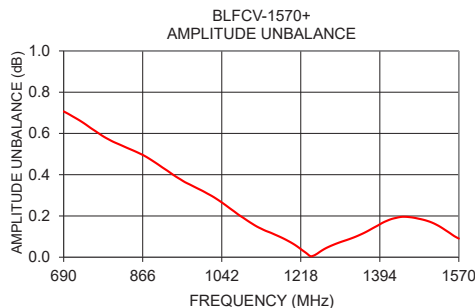
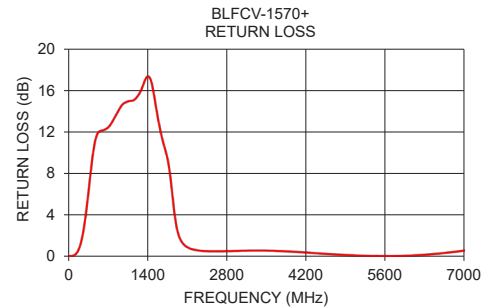
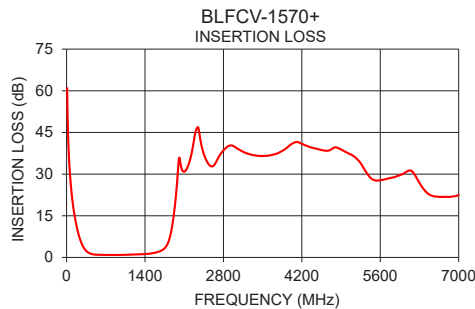
Operating Temperature	-55°C to +105°C
Storage Temperature	-55°C to +105°C
RF Power Input*	1W @25°C

* Refer to product storage temperature after installation
Suggestion for T&R unused product storage condition: +5 ~ +35 °C,
Humidity 45-75%RH, 12 month Max



Pad Connections

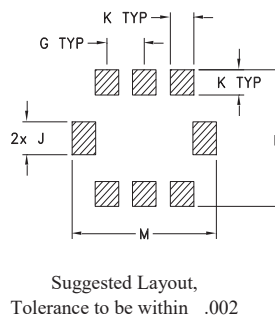
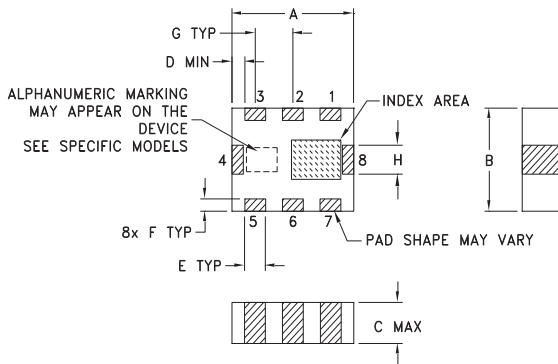
Unbalanced Port	7
Balanced Port	3, 5
GND	2, 4, 8
GNC or DC Feed	6
NC	1



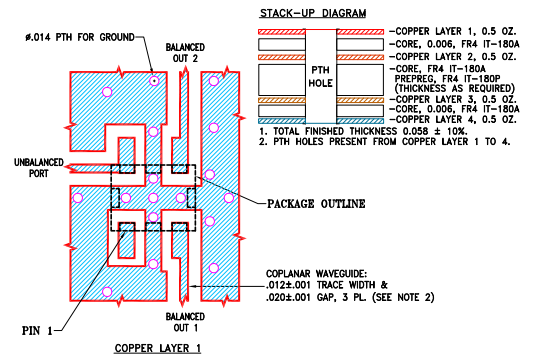
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Amplitude Unbalance (dB)	Phase Unbalance (Deg.)
10	60.98	0.04	2.72	31.03
50	33.22	0.05	2.49	9.47
100	21.27	0.14	2.27	5.68
690	0.91	12.38	0.71	7.54
1000	0.93	14.80	0.32	8.66
1570	1.67	13.49	0.09	0.41
2000	34.43	1.38	6.11	11.55
2500	34.77	0.51	3.43	27.47
3000	39.84	0.55	3.20	37.34
3500	36.52	0.57	1.36	30.47
4000	40.59	0.45	9.38	85.68
4500	38.92	0.27	0.20	158.12
5000	37.79	0.12	4.09	170.46
5500	27.79	0.05	0.06	65.38
6000	30.01	0.08	10.33	69.21
7000	22.48	0.58	4.00	84.49

Outline Drawing



Demo Board MCL P/N: TB-1053+ Suggested PCB Layout (PL-632)



- NOTES:
- PCB IS MULTILAYER PCB, SEE STACK-UP DIAGRAM.
 - TRACE WIDTH & GAP PARAMETERS ARE SHOWN FOR FR4 IT-180A WITH DIELECTRIC THICKNESS .006"±.0007"; COPPER: 1/2 OZ. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
 - LAYERS 2,3,4 OF THE PCB ARE CONTINUOUS GROUND PLANE.
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Dimensions (Inch/mm)

A	B	C	D	E	F	G
.126	.098	.039	.004	.022	.012	.039
3.2	2.5	1.0	0.1	0.56	0.3	1.0
H	J	K	L	M		wt
.028	.031	.024	.130	0.15		grams
0.7	0.8	0.6	3.30	3.81		0.030

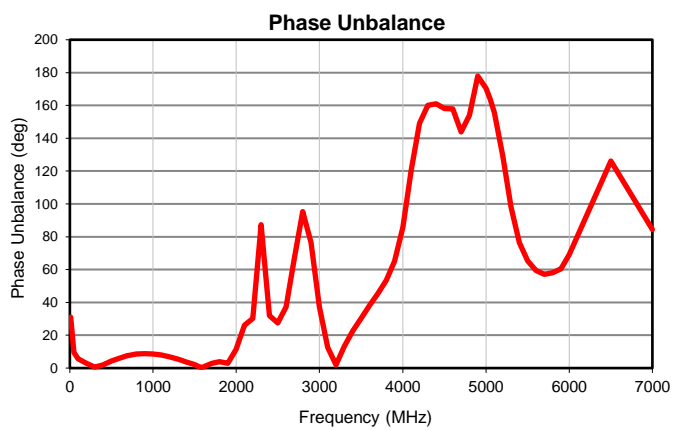
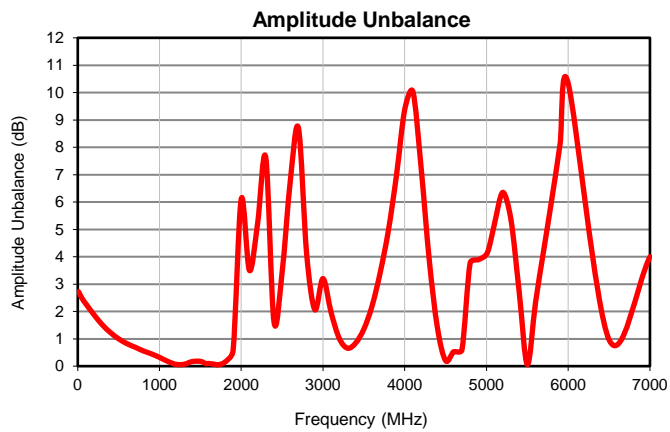
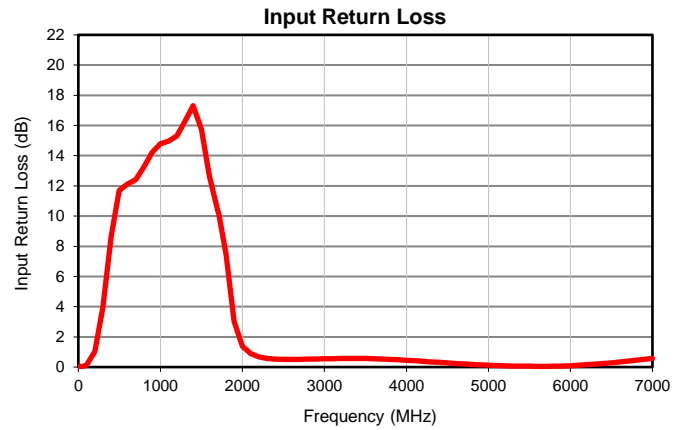
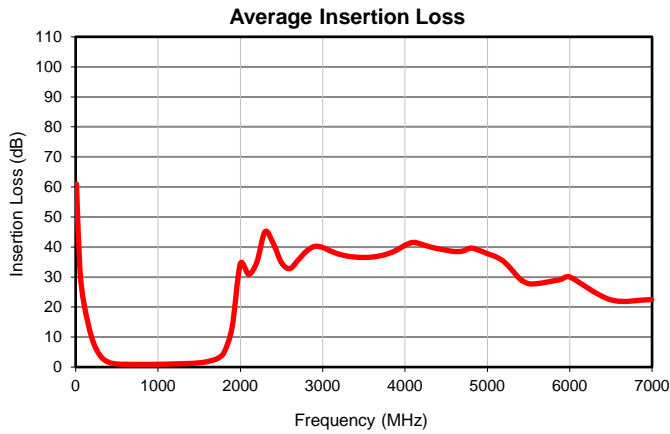
Additional Notes

- 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.
- 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

Typical Performance Data

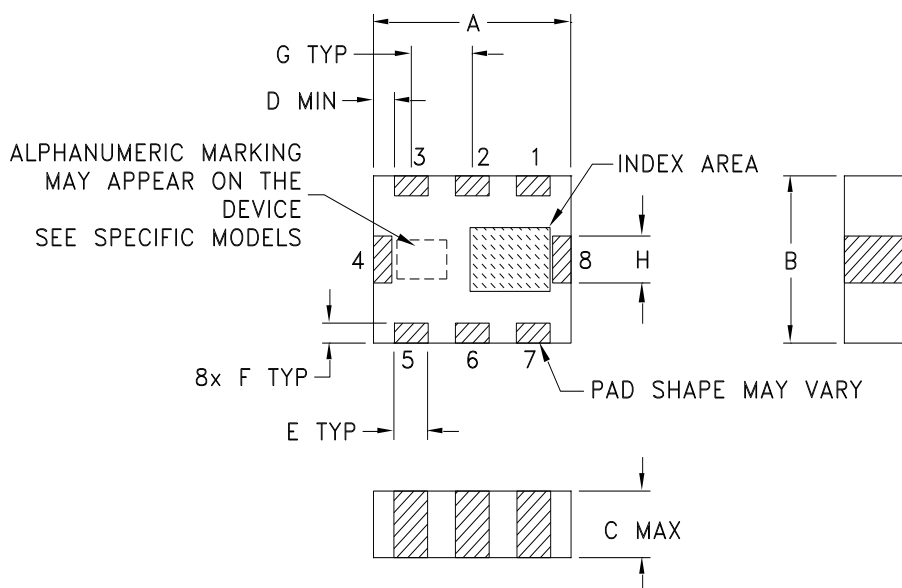
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (deg.)
10	60.98	0.04	2.72	31.03
50	33.22	0.05	2.49	9.47
100	21.27	0.14	2.27	5.68
200	9.39	1.03	1.87	2.89
300	3.73	3.96	1.51	0.53
400	1.61	8.66	1.23	1.91
500	1.05	11.70	1.00	4.26
600	0.93	12.13	0.83	6.13
690	0.91	12.38	0.71	7.54
700	0.91	12.43	0.70	7.64
800	0.89	13.25	0.56	8.53
900	0.89	14.23	0.45	8.79
1000	0.93	14.80	0.32	8.66
1100	0.98	14.97	0.18	7.97
1200	1.05	15.30	0.07	6.88
1300	1.12	16.26	0.07	5.54
1400	1.21	17.31	0.17	3.77
1500	1.41	15.75	0.18	2.17
1570	1.67	13.49	0.09	0.41
1600	1.81	12.63	0.10	0.57
1700	2.55	10.37	0.05	2.68
1710	2.67	10.18	0.04	2.87
1800	4.76	7.46	0.15	3.87
1900	13.24	3.02	0.56	3.02
2000	34.43	1.38	6.11	11.55
2100	30.86	0.88	3.50	26.13
2200	34.90	0.67	5.21	30.26
2300	45.08	0.57	7.62	87.33
2400	41.15	0.53	1.63	31.89
2500	34.77	0.51	3.43	27.47
2600	32.78	0.51	6.76	37.30
2700	35.56	0.51	8.70	67.12
2800	38.52	0.52	4.11	95.36
2900	40.19	0.53	2.06	76.46
3000	39.84	0.55	3.20	37.34
3100	38.59	0.56	1.95	12.72
3200	37.60	0.57	1.01	1.95
3300	36.97	0.57	0.66	13.30
3400	36.63	0.57	0.85	22.77
3500	36.52	0.57	1.36	30.47
3600	36.64	0.56	2.19	38.18
3700	37.08	0.53	3.42	45.34
3800	37.82	0.51	4.95	53.38
3900	38.98	0.48	7.00	65.09
4000	40.59	0.45	9.38	85.68
4100	41.54	0.42	10.03	120.42
4200	40.91	0.38	7.27	149.15
4300	40.07	0.34	3.88	159.95
4400	39.43	0.31	1.41	161.02
4500	38.92	0.27	0.20	158.12
4600	38.49	0.24	0.53	157.91
4700	38.63	0.20	0.60	143.86
4800	39.64	0.17	3.77	154.04
4900	38.87	0.14	3.89	177.87
5000	37.79	0.12	4.09	170.46
5050	37.31	0.11	4.56	163.68
5100	36.79	0.10	5.23	155.47
5200	35.15	0.08	6.35	129.43
5300	32.28	0.07	5.35	98.13
5400	29.25	0.06	2.72	76.35
5500	27.79	0.05	0.06	65.38
5600	27.79	0.05	2.32	59.43
5700	28.19	0.05	4.23	57.15
5800	28.69	0.05	6.12	58.10
5900	29.26	0.07	8.10	60.37
6000	30.01	0.08	10.33	69.21
6500	22.39	0.27	0.96	126.10
7000	22.48	0.58	4.00	84.49

Typical Performance Data

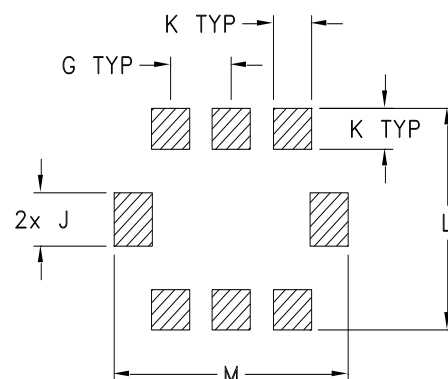


Outline Dimensions

JV1210C-4



PCB Land Pattern



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

CASE #	A	B	C	D	E	F	G	H	J	K	L	M	WT. GRAM
JV1210C-4	.126 (3.2)	.098 (2.5)	.039 (1.00)	.004 (.1)	.022 (.56)	.012 (.3)	.039 (1.0)	.028 (.71)	.031 (.79)	.024 (.61)	.130 (3.30)	.150 (3.81)	.03

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

Notes:

- Open style, ceramic base.
- Termination finish: **as shown below or indicated on Data Sheet.**
For RoHS Case Styles: Matte-Tin. All models, (+) suffix.
For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.
- Pad tolerance is non-cumulative. Minimum spacing between each pad is .004.



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



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RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F74

DEVICE ORIENTATION IN T&R

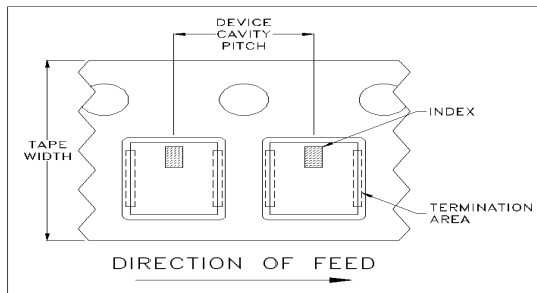


ILLUSTRATION 1

Applicable Case Styles

GE0805C-1
GE0805C-1AP
JV1210C-1
GU2939

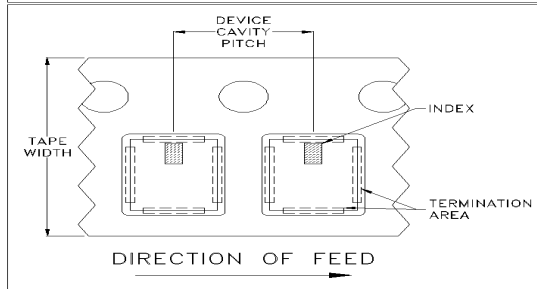


ILLUSTRATION 2

Applicable Case Styles

JV1210C
JV1210C-2
JV1210C-3
JV1210C-4
JV1210C-5
JV1210C-6

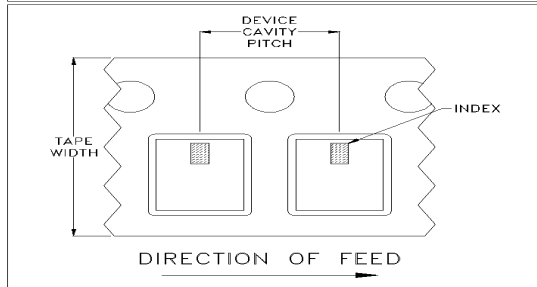


ILLUSTRATION 3

Applicable Case Styles

JV1210C-7

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
			Standard	1000
				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.

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



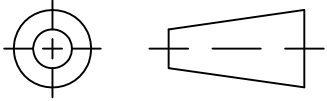
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THIRD ANGLE PROJECTION

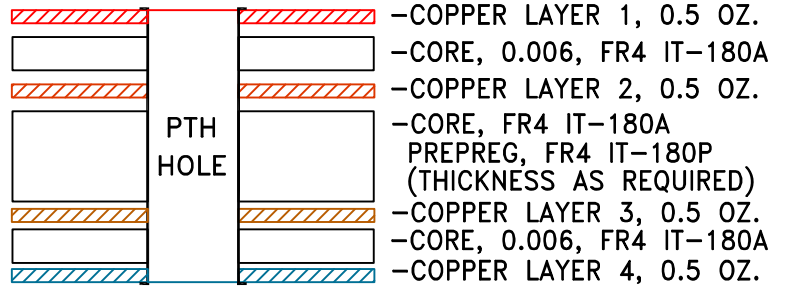


REVISIONS

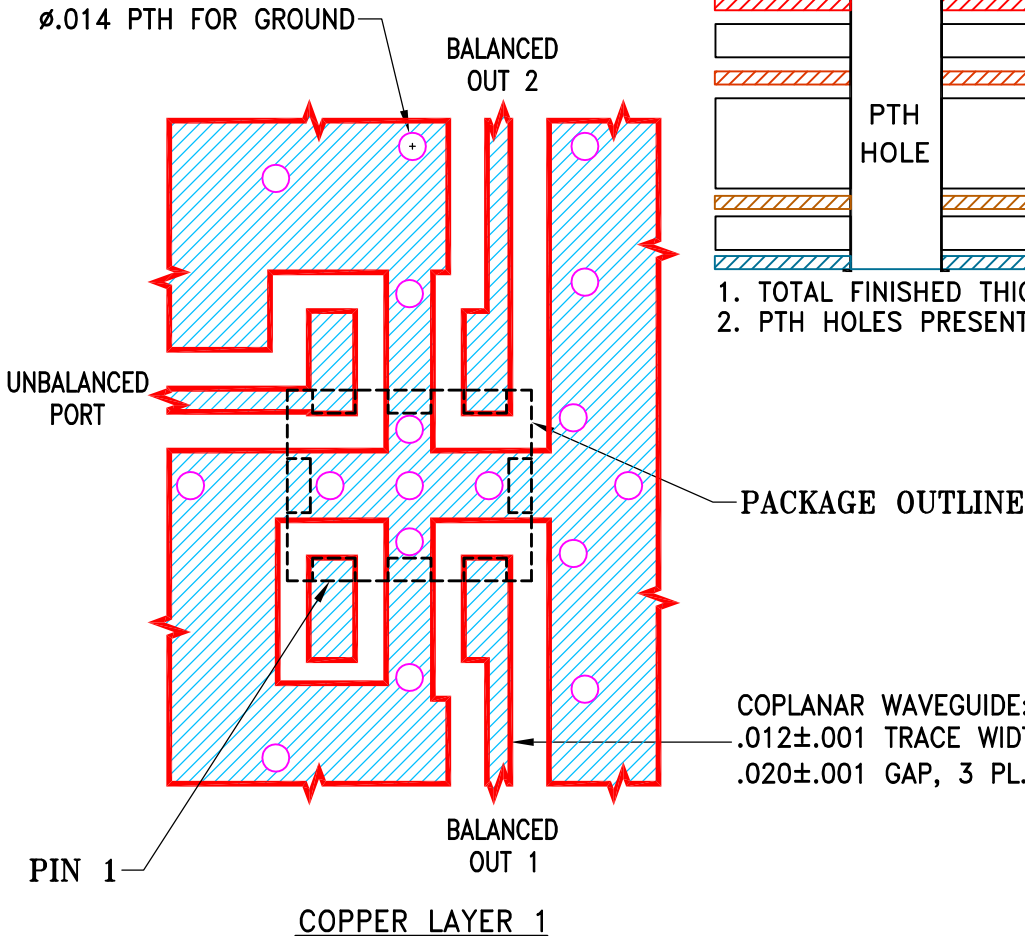
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M174716	NEW RELEASE	06/10/19	ITG	SL

SUGGESTED MOUNTING CONFIGURATION FOR JV1210C-4 CASE STYLE

STACK-UP DIAGRAM

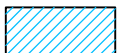


- TOTAL FINISHED THICKNESS 0.058 ± 10%.
- PTH HOLES PRESENT FROM COPPER LAYER 1 TO 4.



NOTES:

- PCB IS MULTILAYER PCB, SEE STACK-UP DIAGRAM.
- TRACE WIDTH & GAP PARAMETERS ARE SHOWN FOR FR4 IT-180A WITH DIELECTRIC THICKNESS .006"±.0007"; COPPER: 1/2 OZ. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
- LAYERS 2,3,4 OF THE PCB ARE CONTINUOUS GROUND PLANE.



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	ITG 06/04/19
	CHECKED	GF 06/10/19
	APPROVED	SL 06/10/19



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13 Neptune Avenue
Brooklyn NY 11235

PL, JV1210C-4, TB-BLFCV/BBFCV

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SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-632	OR
FILE:	98PL632	SCALE: 10:1	SHEET: 1 OF 1

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 105°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 105°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 Eutectic Process 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020C, 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