Engineering Development Model

Low Pass Filter LFCV-ED13423/2

SMT

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.

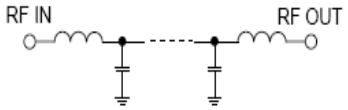
Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : JV1210C

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C							
Parameters		**F#**	**Frequency (MHz)**	**Min.**	**Typ.**	**Max.**	**Units**
Pass Band	Insertion Loss	DC-F1	DC-52	--	--	1.2	dB
	Freq. Cut-off	F2	93	--	3	--	dB
	VSWR	DC-F1	DC-52	--	1.2	--	:1
Stop Band	Rejection Loss	F3	140	20	--	--	dB
		F4-F5	170-1100	--	40	--	dB
		F6	1200	--	20	--	dB
	VSWR	F3-F6	140-1200	--	20	--	:1

MAXIMUM RATINGS	
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input	8.5W max.

Functional Schematic



PIN CONNECTIONS	
RF IN	1
RF OUT	3
GROUND	2,4

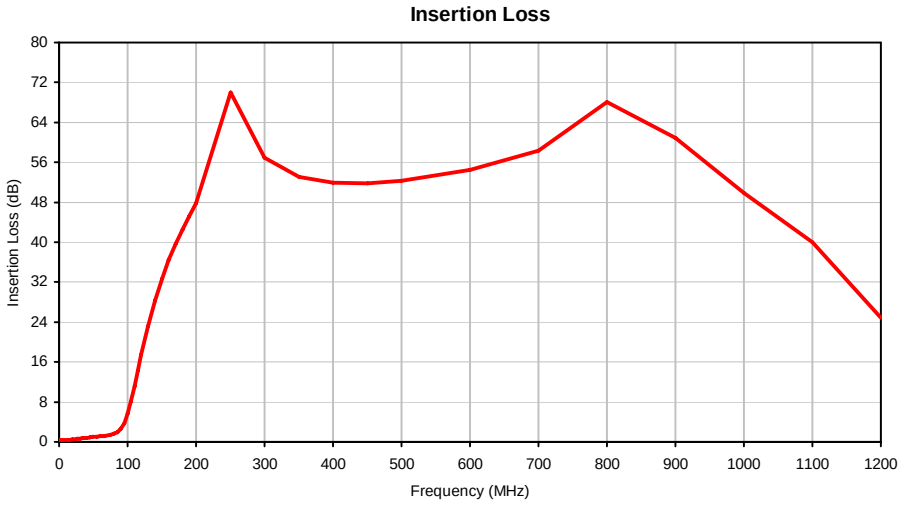
Low Pass Filter LFCV-ED13423/2

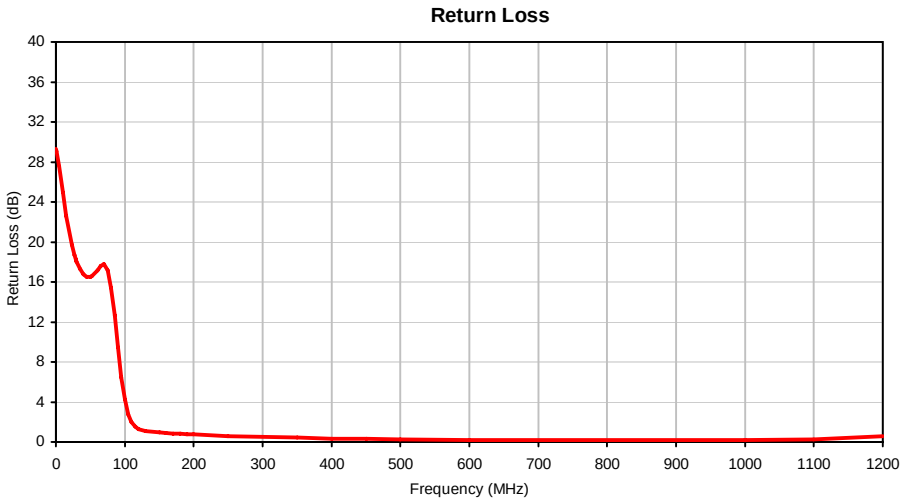
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
0.3	0.33	29.34
1.0	0.33	29.07
5.0	0.35	27.58
10.0	0.38	24.97
15.0	0.43	22.60
20.0	0.50	20.67
23.0	0.54	19.73
24.0	0.56	19.45
25.0	0.57	19.19
26.0	0.59	18.94
27.0	0.60	18.71
28.0	0.62	18.49
29.0	0.64	18.28
30.0	0.65	18.08
31.0	0.67	17.90
35.0	0.74	17.29
40.0	0.82	16.78
45.0	0.91	16.52
49.0	0.97	16.51
50.0	0.98	16.52
52.0	1.01	16.60
55.0	1.05	16.77
60.0	1.12	17.18
65.0	1.20	17.62
70.0	1.30	17.77
75.0	1.43	17.16
80.0	1.63	15.43
85.0	1.97	12.69
90.0	2.59	9.48
95.0	3.72	6.49
100.0	5.58	4.20
105.0	8.14	2.76
110.0	11.14	1.96
115.0	14.29	1.54
120.0	17.42	1.31
130.0	23.25	1.10
140.0	28.36	1.01
150.0	32.73	0.94
160.0	36.46	0.90
170.0	39.67	0.86
180.0	42.53	0.82
190.0	45.18	0.78
200.0	47.76	0.75
250.0	69.94	0.60
300.0	56.87	0.50
350.0	53.02	0.42
400.0	51.95	0.35
450.0	51.83	0.30
500.0	52.28	0.27
600.0	54.54	0.22
700.0	58.34	0.20
800.0	68.12	0.18
900.0	60.95	0.18
1000.0	49.86	0.19
1100.0	39.99	0.23
1200.0	24.93	0.57

Low Pass Filter LFCV-ED13423/2

Typical Performance Curves



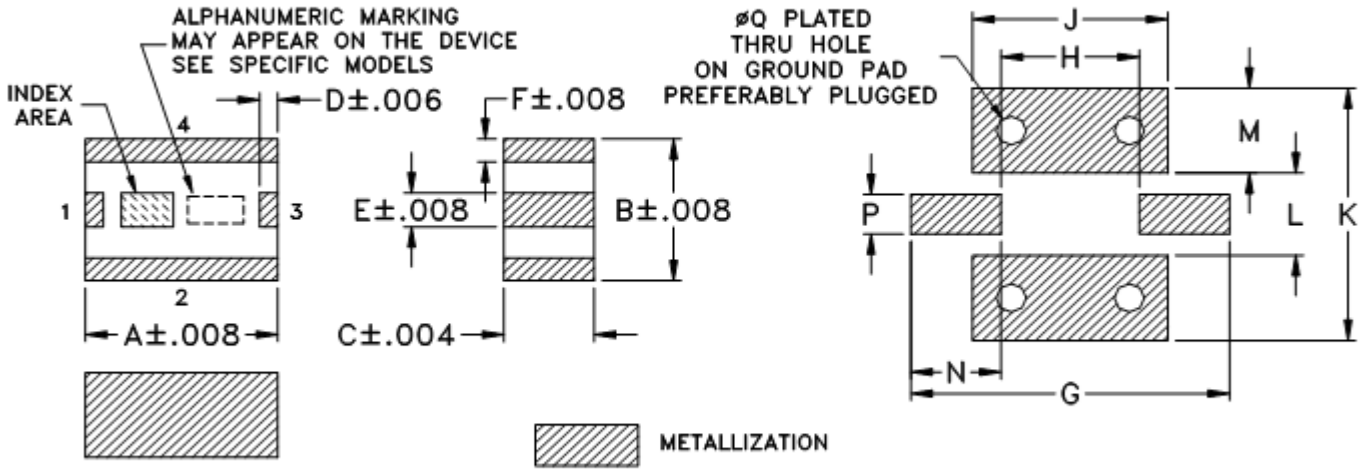


Case Style JV

Outline Dimensions

JV1210C

PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

CASE #	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	WT. GRAM
JV1210C	.126 (3.2)	.098 (2.5)	.059 (1.5)	.012 (.3)	.024 (.6)	.016 (.4)	.209 (5.3)	.091 (2.3)	.128 (3.25)	.175 (4.45)	.057 (1.45)	.059 (1.5)	.059 (1.5)	.028 (.7)	.020 (.5)	.03

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

Notes:

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

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Tape & Reel Packaging TR-F74

DEVICE ORIENTATION IN T&R

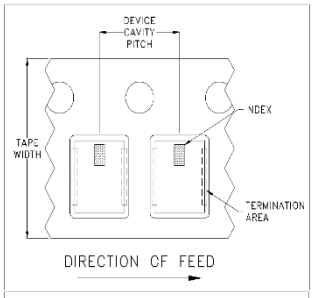

ILLUSTRATION 1

Applicable Case Styles
GE0805C-1
GE0805C-1AP
JV1210C-1
GU2939

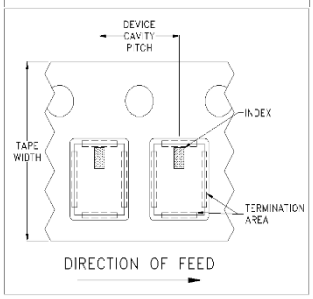

ILLUSTRATION 2

Applicable Case Styles
JV1210C
JV1210C-2
JV1210C-3
JV1210C-4
JV1210C-5
JV1210C-6
JV1210C-11

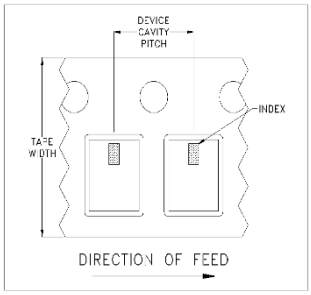

ILLUSTRATION 3

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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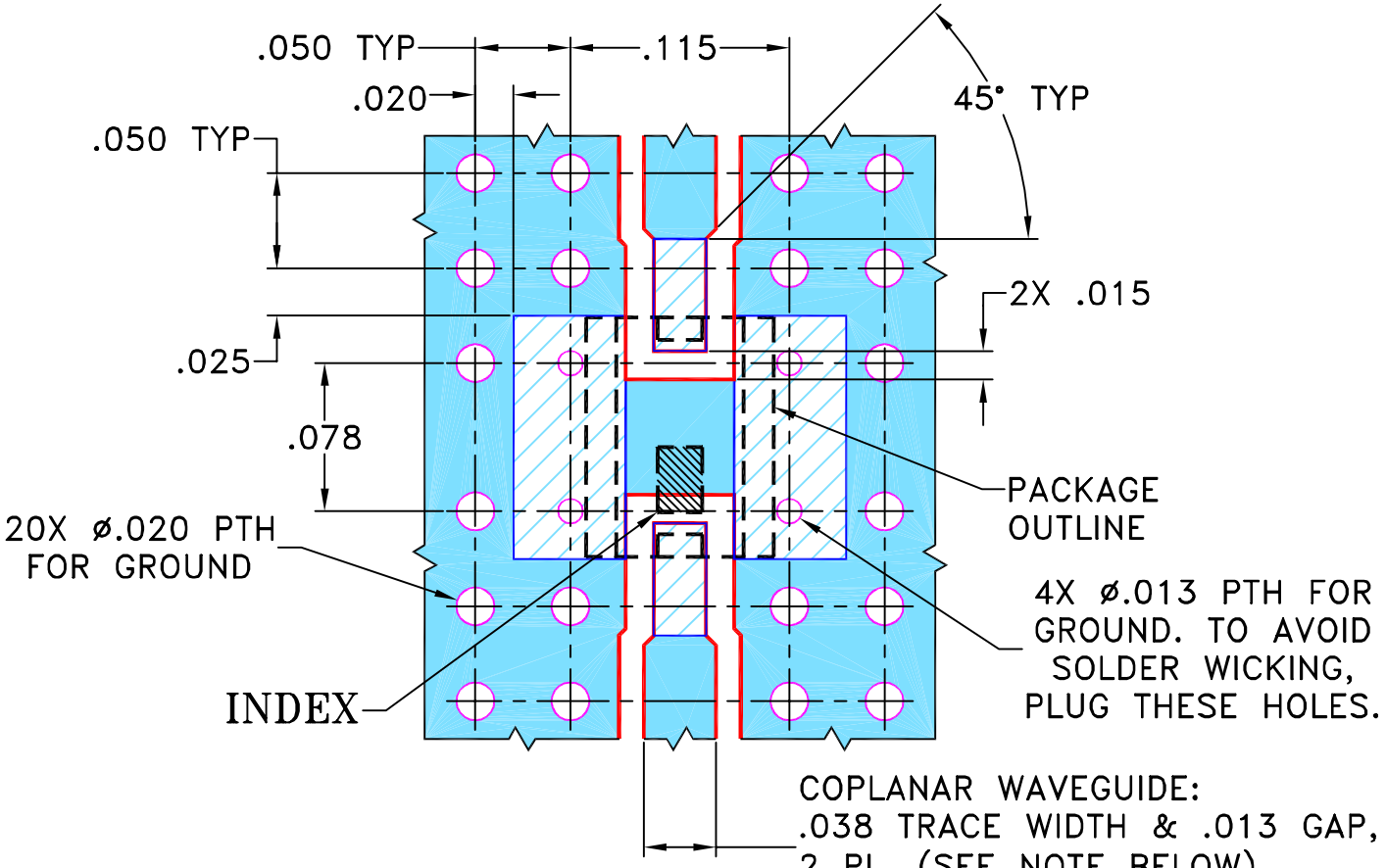
THIRD ANGLE PROJECTION

REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M123026	NEW RELEASE	06/08/09	PW	ABD

SUGGESTED MOUNTING CONFIGURATION
FOR JV1210C CASE STYLE, "04FL01" PIN CONNECTIONS



NOTES:

1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015"; 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	PW	05/27/09
TOLERANCES ON:	CHECKED	IL	06/04/09
2 PL DECIMALS ±	APPROVED	ABD	06/08/09
3 PL DECIMALS ± .005			
ANGLES ±			
FRACTIONS ±			

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

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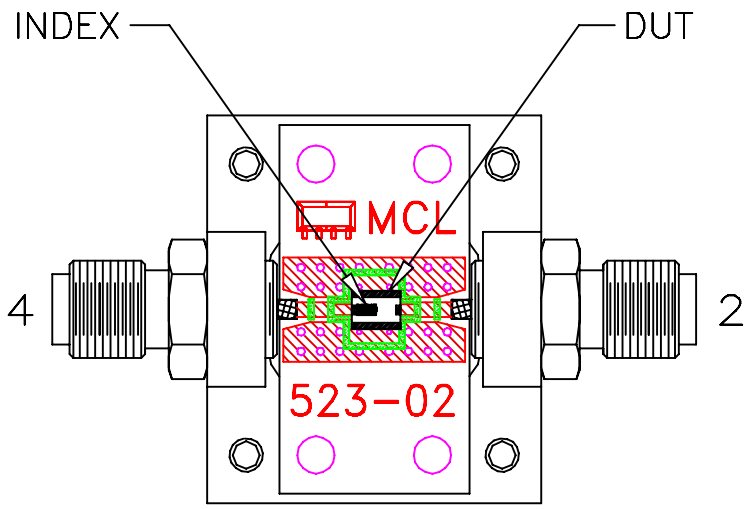
PL, 04FL01, JV1210C, LFCF, TB-526+

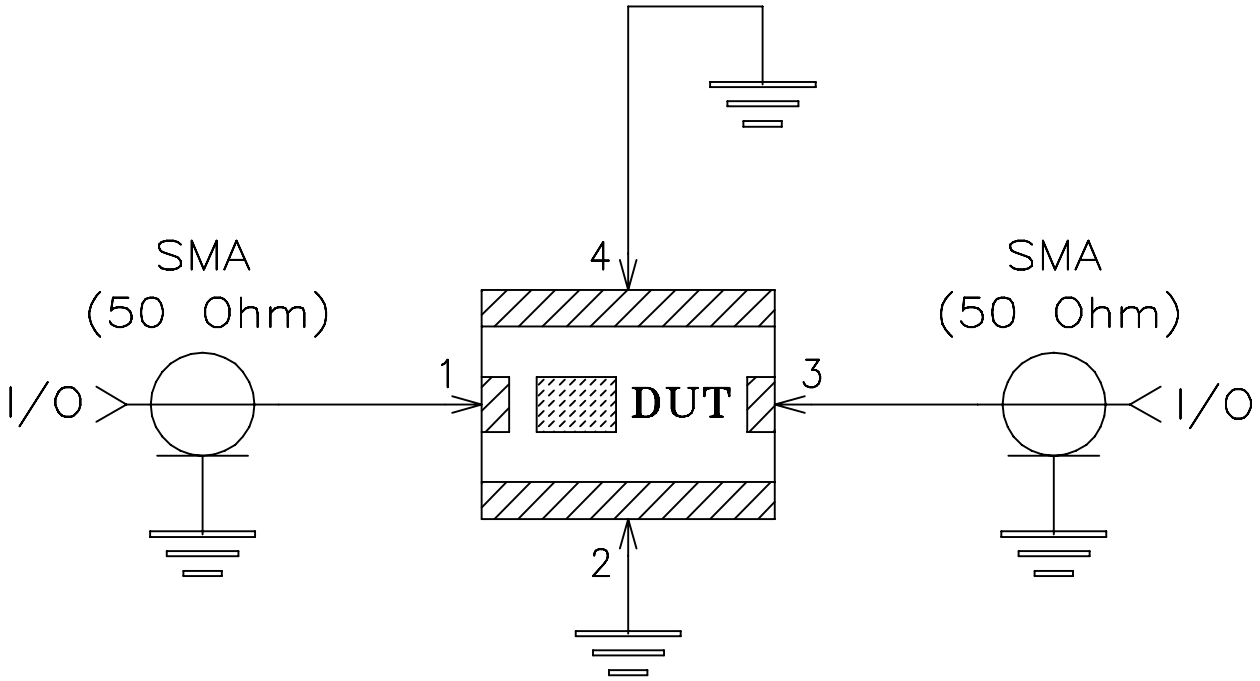
SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-307	OR

FILE:	SCALE:	SHEET:
98PL307	10:1	1 OF 1

Evaluation Board and Circuit



TB-526+



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 ENV06

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

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