

Ceramic

# LTCC Bandpass Filter

BFCV-3350+

50Ω 2570 to 4130 MHz



CASE STYLE: JV1210C

## The Big Deal

- Small size 3.2mm x 2.5mm
- Wide passband (2570-4130 MHz)
- Low Insertion Loss (1.5 dB typical)
- Wide stopband rejection up to 8 GHz

## Product Overview

The BFCV-3350+ LTCC Band Pass Filter is constructed with multiple layers in order to achieve a miniature size and high repeatability of performance. Wrap-around terminations minimize variations in performance due to parasitics. These units offer low insertion loss and very good wide band rejection.

## Key Features

Feature	Advantages
Small Size (3.20mm x2.5 mm)	Allows for high layout density of circuit boards, while minimizing effects of parasitics.
Wrap around termination	Provides excellent solderability and easy visual inspection capability.
Wide bandwidth	Enables high data rate in communication systems.
LTCC construction	Provides a rugged package that is well suited for tough environments including high humidity and high temperature extremes.

### Notes

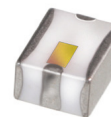
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# Ceramic Bandpass Filter

## BFCV-3350+

50Ω 2570 to 4130 MHz



CASE STYLE: JV1210C

### Features

- Small size
- Temperature stable
- Hermetically sealed
- LTCC construction

### Applications

- Software defined radio
- WLAN
- Cellular network
- Satellite television broadcast
- Aircraft radar altimeters

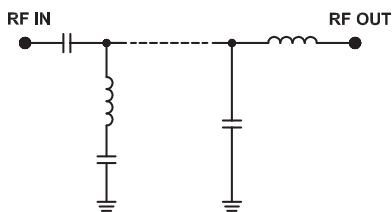
### Electrical Specifications<sup>1,2</sup> at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Center Frequency	—	—	3350	—	MHz	
	Insertion Loss	F3-F6	2570-4130	—	1.5	—	dB
	VSWR	F4-F5	2650-4030	—	1.5	3.5	dB
Stop Band, Lower	Insertion Loss	F3-F6	2570-4130	—	2.3	—	:1
	Insertion Loss	DC-F1	DC-1900	14	17	—	dB
	VSWR	F2	2065	—	17	—	dB
Stop Band, Upper	Insertion Loss	DC-F1	DC-1900	—	20	—	:1
	Insertion Loss	F7-F8	5140-8000	15	20	—	dB
	VSWR	F7-F8	5140-8000	—	20	—	:1

1. Measured on Mini-Circuits Characterization Test Board TB-946+

2. This filter is not intended for use as a DC Blocking circuit element. In Application where DC voltage is present at either input or output ports, blocking capacitors are required at the corresponding RF port.

### Functional Schematic



### Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	4 W max @ +25°C

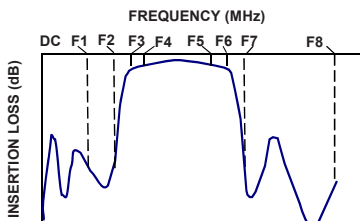
\*Passband rating, derate linearly to 0.25W at 100°C ambient

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

### Typical Performance Data at 25°C

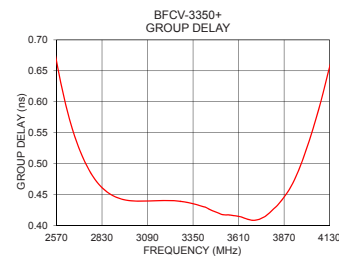
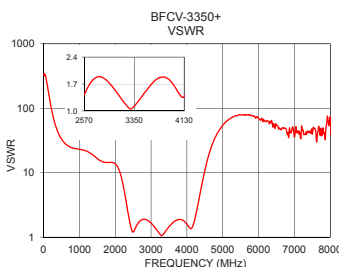
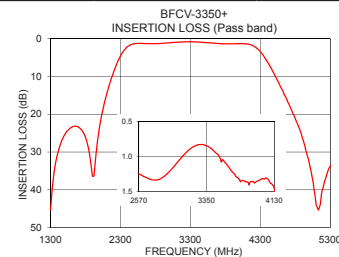
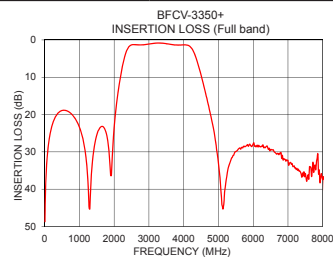
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
10	48.70	345.89	2570	0.67
1900	36.32	14.43	2580	0.65
1960	29.02	14.17	2600	0.62
2000	23.59	13.72	2650	0.57
2040	19.59	12.99	2700	0.52
2065	17.49	12.34	2750	0.49
2200	8.96	7.24	2800	0.47
2340	3.39	2.70	2900	0.45
2570	1.25	1.42	3000	0.44
2650	1.30	1.69	3350	0.44
3350	0.85	1.12	3500	0.42
4030	1.31	1.50	3600	0.42
4130	1.46	1.37	3700	0.41
4280	3.06	2.67	3800	0.42
4600	13.12	18.05	3900	0.46
4780	20.31	34.49	3950	0.49
4960	30.12	50.63	4000	0.53
5140	44.89	64.88	4030	0.55
7000	32.29	35.51	4100	0.62
8000	37.45	72.31	4130	0.66

### Typical Frequency Response



### +RoHS Compliant

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



### Notes

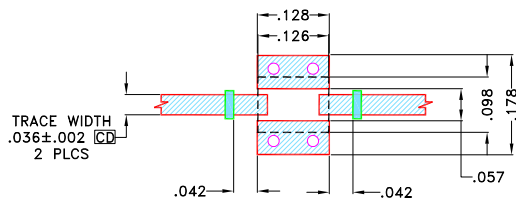
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## Pad Connections

RF IN	1
RF OUT	3
GROUND	2,4

**Demo Board MCL P/N: TB-946+**  
**Suggested PCB Layout (PL-502)**

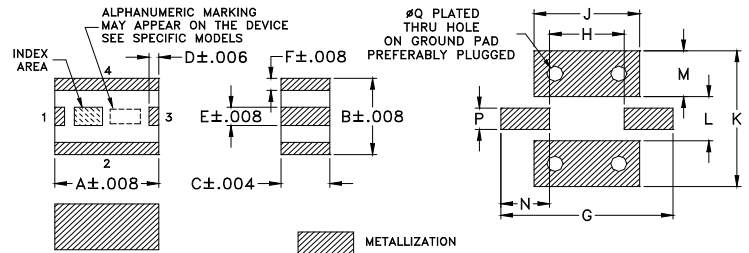


### NOTES:

1. TRACE WIDTH & SPACE WIDTH IS SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS  $.0166 \pm .0015$ ". COPPER 1/2 OZ. EACH SIDE FOR OTHER MATERIALS TRACE WIDTH & SPACE WIDTH 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 SOLDERMASK

## Outline Drawing



### Outline Dimensions ( inch / mm )

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

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