

Ceramic

# Bandpass Filter

## BFCN-1690+

50Ω 1570 to 1810 MHz



CASE STYLE: FV1206-1

### Features

- Good VSWR, 1.29:1 typ. @ passband
- Small size(0.126 x .063 x .035)
- Temperature stable
- LTCC construction

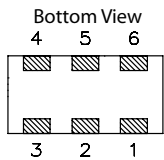
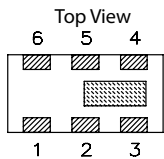
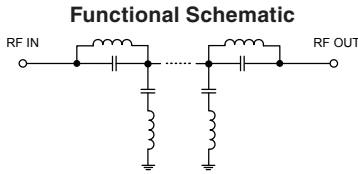
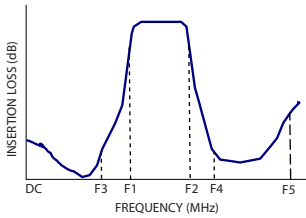
### Applications

- Harmonic rejection
- Transmitters / Receivers

**+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, 3000

### Specification Definition



### Pad Connections

Input	1
Output	3
Ground	2,4,5,6

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

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Center Frequency	—		1690		MHz	
	Insertion Loss	F1 - F2	1570 - 1810	—	2.5	5.0	dB
	VSWR	F1 - F2	1570 - 1810	—	1.29	2.0	:1
Stop Band, Lower	Insertion Loss	DC - F3	1200	17	25.5	—	dB
	VSWR	DC - F3	1200	17	24	—	:1
Stop Band, Upper	Insertion Loss	F4 - F5	2170 - 4400	20	30	—	dB
	VSWR	F4 - F5	2170 - 4400	5	20	—	:1

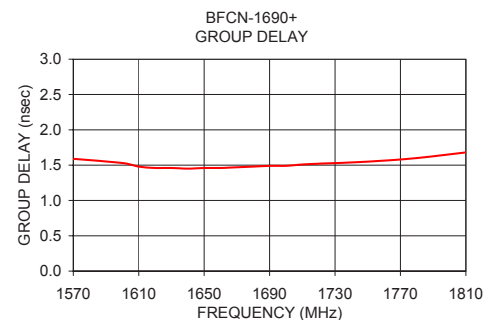
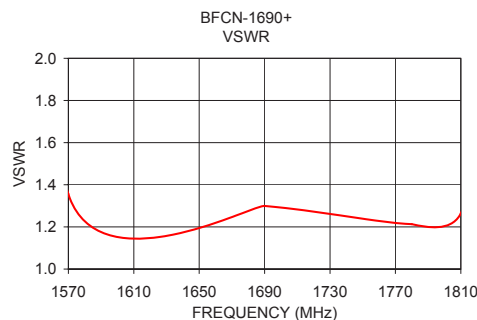
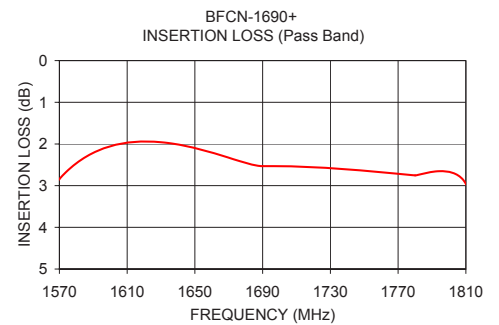
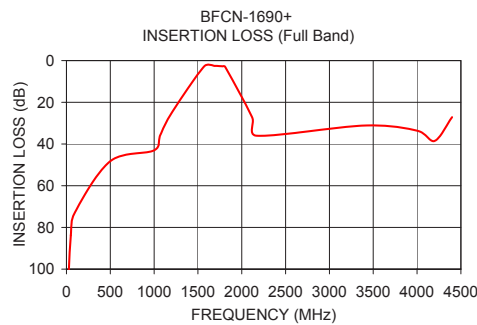
1. Measured on Mini-Circuits Characterization Test Board TB-285.

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.

### Maximum Ratings

Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
RF Power Input*	1.0W at 25°C

\*Passband rating, derate linearly to 0.25W at 100°C ambient  
Permanent damage may occur if any of these limits are exceeded.



### Full Band Performance

### Pass Band Performance

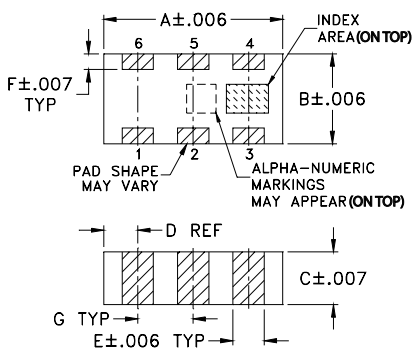
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Insertion Loss (dB)	Group Delay (nsec)
10.00	116.31	177.17	1570.00	2.84	1.59
50.00	83.75	147.73	1600.00	2.72	1.53
100.00	72.51	119.76	1610.00	2.69	1.48
500.00	48.23	62.19	1620.00	2.66	1.46
1000.00	43.02	35.56	1630.00	2.63	1.46
1070.00	35.77	30.60	1640.00	2.61	1.45
1200.00	25.09	20.81	1650.00	2.59	1.46
1570.00	2.84	1.36	1660.00	2.57	1.46
1690.00	2.53	1.30	1670.00	2.55	1.47
1780.00	2.75	1.21	1680.00	2.54	1.48
1810.00	2.95	1.27	1690.00	2.53	1.49
2120.00	27.35	6.94	1700.00	2.53	1.49
2170.00	36.01	8.07	1710.00	2.53	1.51
3400.00	31.15	70.42	1720.00	2.54	1.52
4000.00	33.62	56.00	1750.00	2.62	1.55
4200.00	38.51	39.90	1780.00	2.75	1.60
4400.00	27.14	19.50	1810.00	2.95	1.68

### Pad Connections

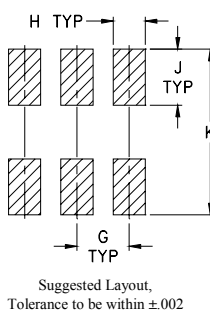
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### Product Marking: BL

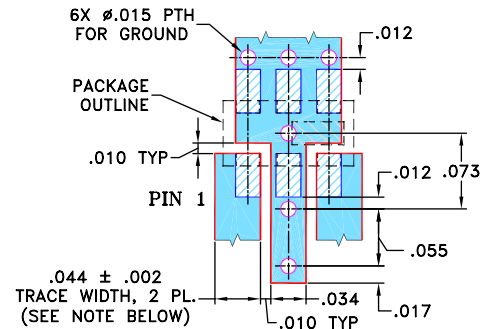
### Outline Drawing



### PCB Land Pattern



### Demo Board MCL P/N: TB-285 Suggested PCB Layout (PL-158)



- NOTE:** 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS: .020 ± .0015; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	
.126	.063	.035	.024	.022	.011	
3.20	1.60	0.89	0.61	0.56	0.28	
G	H	J	K			wt
.039	.024	.042	.123			grams
0.99	0.61	1.07	3.12			.020

### Additional Notes

- A. 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.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. 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](http://www.minicircuits.com/MCLStore/terms.jsp)