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## BFCN-1690+

Mini-Circuits

RF Filters

Any questions, please feel free to contact us.

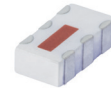
[info@kaimte.com](mailto:info@kaimte.com)

Ceramic

# Bandpass Filter

50Ω 1570 to 1810 MHz

## BFCN-1690+



Generic photo used for illustration purposes only

CASE STYLE: FV1206-1

**+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

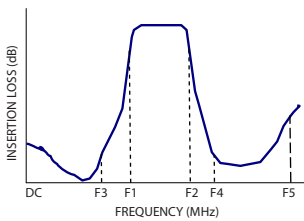
### Features

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

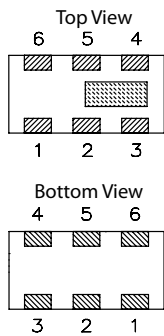
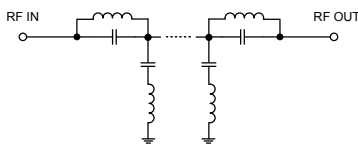
### Applications

- Harmonic rejection
- Transmitters / Receivers

### Specification Definition



### Functional Schematic



### 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

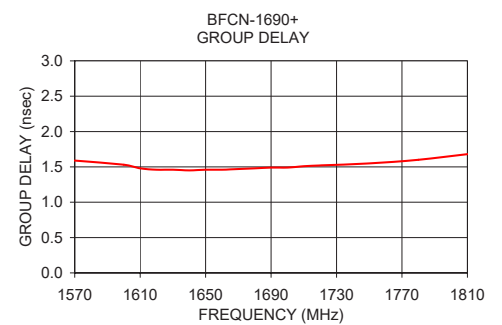
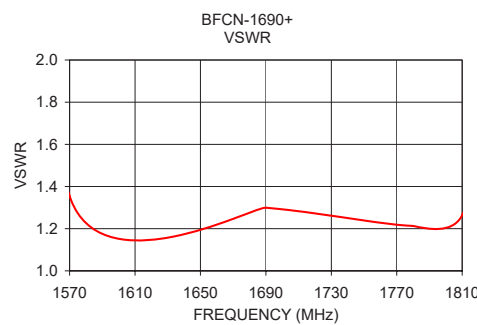
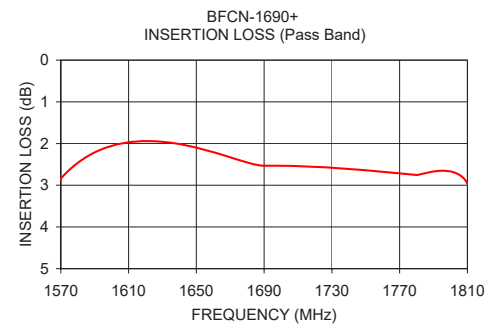
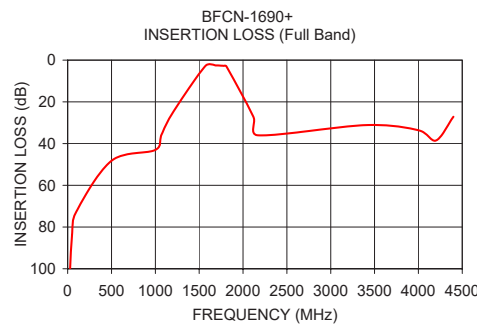
1. Measured on Mini-Circuits Characterization Test Board TB-285.

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.



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REV. B  
M151107  
ED-16214/2  
BFCN-1690+  
AVM/CP/AM  
190725  
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### Full Band Performance

### Pass Band Performance

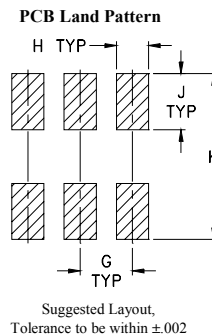
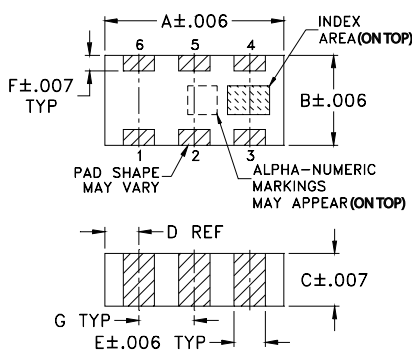
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Insertion Loss (dB)	Group Delay (nsec)
10.00	116.31	177.17	1570.00	2.84	1.59
50.00	83.75	147.73	1600.00	2.72	1.53
100.00	72.51	119.76	1610.00	2.69	1.48
500.00	48.23	62.19	1620.00	2.66	1.46
1000.00	43.02	35.56	1630.00	2.63	1.46
1070.00	35.77	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

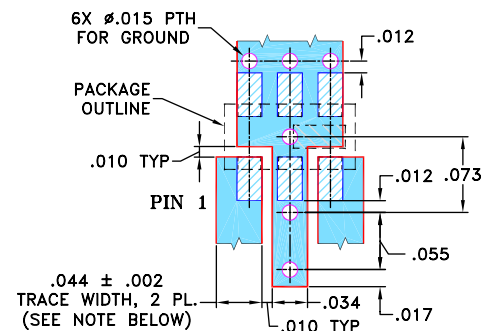
Input	1
Output	3
Ground	2,4,5,6

### Product Marking: BL

### Outline Drawing



### 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)

