

Ceramic

# Bandpass Filter

## BFCN-4800+

50Ω 4400 to 5200 MHz



CASE STYLE: FV1206

### Features

- Good VSWR, 1.2:1 typ @ passband
- Small size (0.126 x 0.063 x .037)
- Temperature stable
- LTCC construction

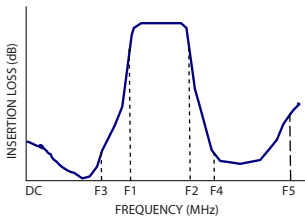
### Applications

- Harmonic rejection
- Telemetry
- Satellite
- Mobile
- Military and Commercial

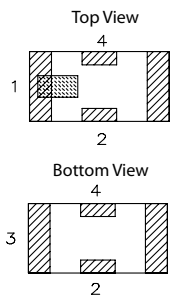
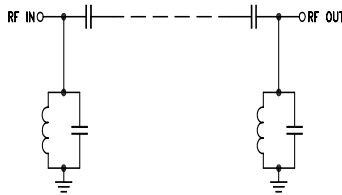
**+RoHS Compliant**  
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



### Specification Definition



### Functional Schematic



### Pad Connections

Input	1
Output	3
Ground	2,4

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

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	4800	—	MHz
	Insertion Loss	F1 - F2	4400 - 5200	—	2.0	dB
	VSWR	F1 - F2	4400 - 5200	—	1.7	:1
Stop Band, Lower	Insertion Loss	DC - F3	—	25	—	dB
	VSWR	DC - F3	—	30	—	:1
Stop Band, Upper	Insertion Loss	F4 - F5	7500 - 12000	—	25	dB
	VSWR	F4 - F5	7500 - 12000	—	15	:1

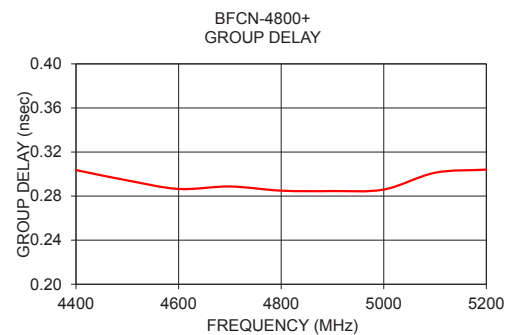
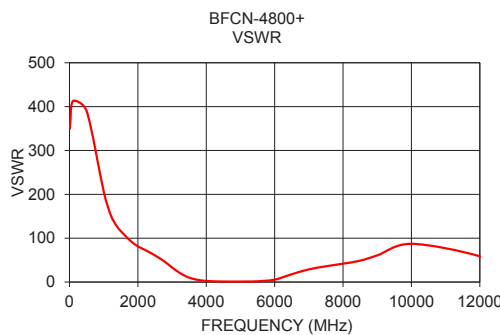
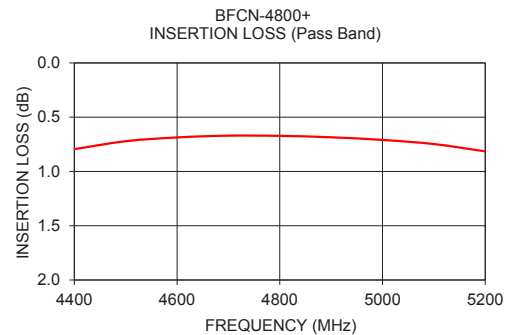
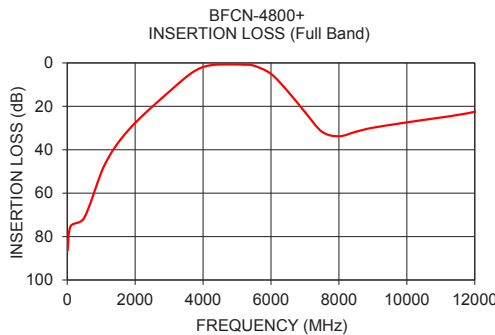
1. Measured on Mini-Circuits Characterization Test Board TB-270.

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*	1.5W 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

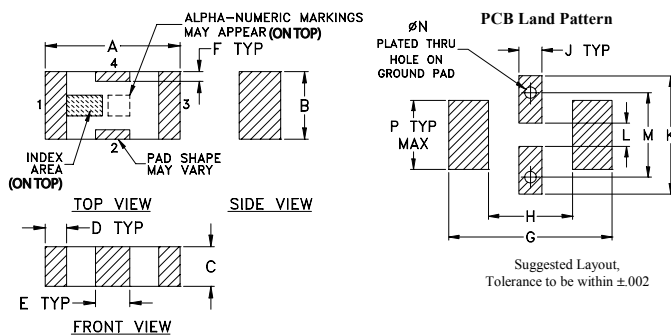
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Insertion Loss (dB)	Group Delay (nsec)
10.00	86.56	349.26	4400.00	0.79	0.30
100.00	75.22	412.74	4500.00	0.72	0.29
1000.00	50.52	206.71	4600.00	0.69	0.29
1800.00	30.99	92.77	4700.00	0.67	0.29
4400.00	0.79	1.32	4800.00	0.67	0.28
5200.00	0.81	1.23	4900.00	0.69	0.28
7500.00	31.68	35.89	5000.00	0.71	0.29
10000.00	27.39	87.13	5100.00	0.75	0.30
12000.00	22.49	58.68	5200.00	0.81	0.30

### Pad Connections

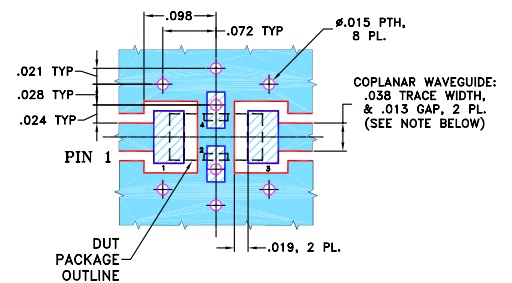
Input	1
Output	3
Ground	2,4

### Product Marking: BB

### Outline Drawing



### Demo Board MCL P/N: TB-270+ Suggested PCB Layout (PL-137)



NOTES: 1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS  $.020 \pm .0015$ , COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & 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

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	
.126	.063	.037	.020	.032	.009	.169	
3.20	1.60	0.94	0.51	0.81	0.23	4.29	
H	J	K	L	M	N	P	wt
.087	.024	.122	.024	.087	.012	.071	grams
2.21	0.61	3.10	0.61	2.21	0.30	1.80	.020

### 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.
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