

# LTCC Bandpass Filter

## BFCN-1575+

50Ω 1530 to 1620 MHz

### The Big Deal

- Small size 3.2mm x 1.6mm
- Pass band (1530-1620 MHz)
- Low Insertion Loss (2.0 dB typical)
- Sharp rejection peaks close to stop band



CASE STYLE: FV1206

### Product Overview

The BFCN-1575+ LTCC Band Pass Filter is constructed with 12 layers in order to achieve a miniature size and high repeatability of performance. Wrap-around terminations minimize variations in performance due to parasitics. Covering 1575 MHz  $\pm$ 45 MHz, these units offer low insertion loss and good rejection.

### Key Features

Feature	Advantages
Small Size (3.20mm x1.6 mm)	Allows for high layout density of circuit boards, while minimizing affects of parasitics.
Rejection peaks at harmonic frequencies	Provides good rejection of signals at harmonic frequencies, for improved system performance.
Wrap around termination	Provides excellent solderability and easy visual inspection capability.
LTCC construction	Provides a rugged package that is well suited for tough environments including high humidity and high temperature extremes.

#### 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.  
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CASE STYLE: FV1206

### Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	1.5W max. at 25°C

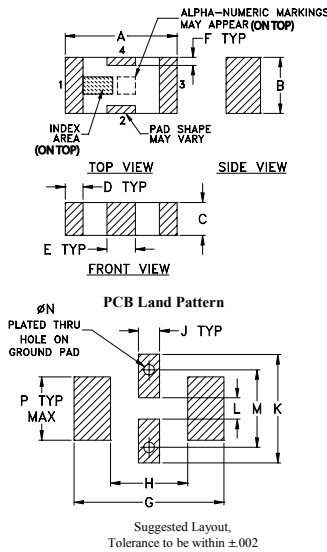
\*Passband rating, derate linearly to 0.25W at 100°C ambient  
Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

RF IN	1
RF OUT	3
GROUND	2,4

Product Marking: 34

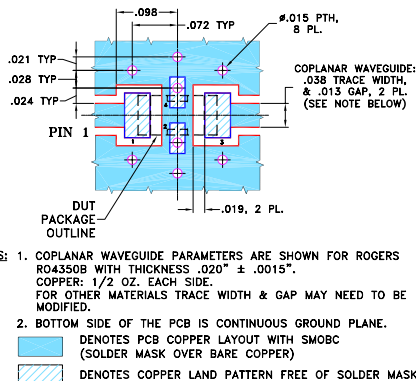
### Outline Drawing



### 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

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



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### Features

- Small size
- Temperature stable
- Hermetically sealed
- 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

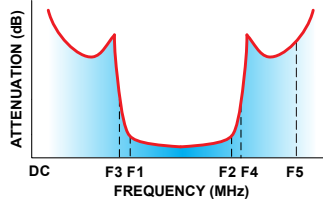
### Electrical Specifications<sup>1,2</sup> at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Center Frequency	—	—	1575	—	MHz	
	Insertion Loss	F1-F2	1530-1620	—	—	3.0	dB
Stop Band, Lower	VSWR	F1-F2	1530-1620	—	—	2.5	:1
	Insertion Loss	DC-F3	DC-1200	—	20	—	dB
Stop Band, Upper	VSWR	DC-F3	DC-1200	—	25	—	:1
	Insertion Loss	F4-F5	2800-5200	—	25	—	dB
Stop Band, Upper	VSWR	F4-F5	2800-5200	—	20	—	:1

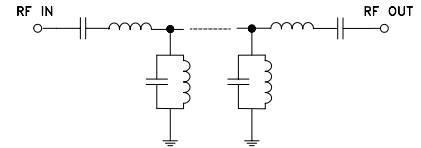
1. Measured on Mini-Circuits Characterization Test Board TB-270.

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.

### Typical Frequency Response



### Functional Schematic



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
0.30	66.27	2309.62
300.00	36.19	116.96
900.00	36.42	71.69
1050.00	38.82	59.41
1150.00	46.97	48.27
1280.00	22.49	26.70
1405.00	7.30	4.82
1480.00	2.76	1.65
1530.00	2.47	1.88
2220.00	20.01	54.29
2400.00	23.53	65.60
2800.00	30.79	75.11
3100.00	37.82	72.94
3500.00	49.66	65.41
5200.00	29.49	26.75

