

# LTCC Bandpass Filter

**BFCN-1445+**

50Ω      1420 to 1470 MHz

## The Big Deal

- Small size 3.2mm x 1.6mm
- Pass band (1420-1470 MHz)
- Low Insertion Loss (2.0 dB typical)
- Sharp rejection peaks close to stop band



CASE STYLE: FV1206

## Product Overview

The BFCN-1445+ 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 1445 MHz  $\pm$ 25 MHz, these units offer low insertion loss and good rejection.

## Key Features

Feature	Advantages
Small Size (3.20mm x 1.6 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.  
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)



# Ceramic Bandpass Filter

50Ω 1420 to 1470 MHz

## BFCN-1445+



CASE STYLE: FV1206  
PRICE: \$3.95 ea. QTY (20)

**+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

### 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

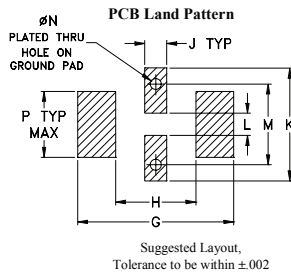
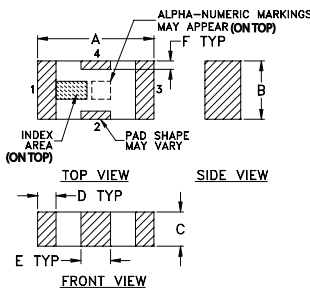
\*Passband rating, derate linearly to 0.25W at 100°C ambient  
Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

RF IN	1
RF OUT	3
GROUND	2,4

### Product Marking: 35

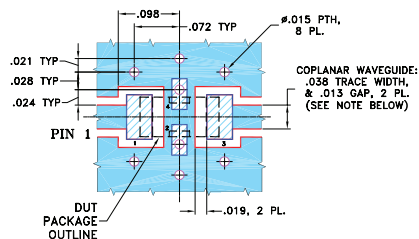
#### Outline Drawing



#### 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)



- NOTES:**
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .020" ± .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

### Features

- Small size
- Temperature stable
- LTCC construction

### Applications

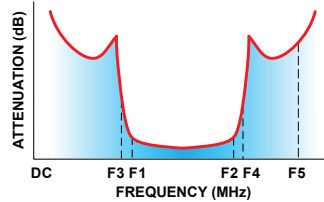
- Harmonic Rejection
- Transmitters / Receivers

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

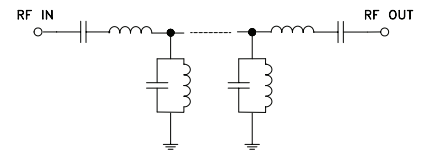
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	1445	—	MHz
	Insertion Loss	F1-F2	1420-1470	—	3.0	dB
Stop Band, Lower	VSWR	F1-F2	1420-1470	—	2.5	:1
	Insertion Loss	DC-F3	DC-1140	—	20	dB
Stop Band, Upper	VSWR	DC-F3	DC-1140	—	25	:1
	Insertion Loss	F4-F5	2600-4900	—	25	dB
Stop Band, Upper	VSWR	F4-F5	2600-4900	—	20	:1

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

#### Typical Frequency Response

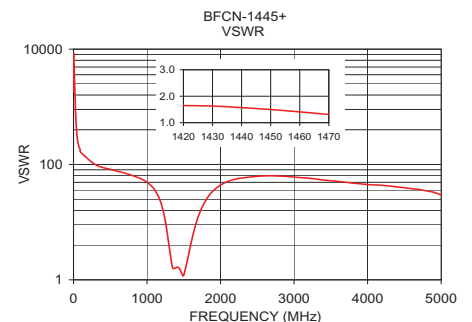
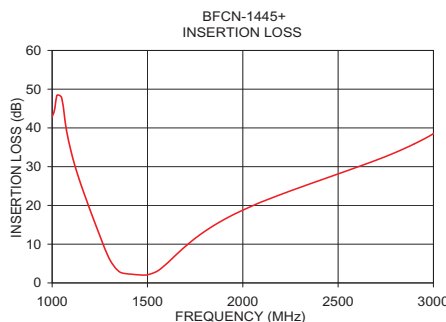
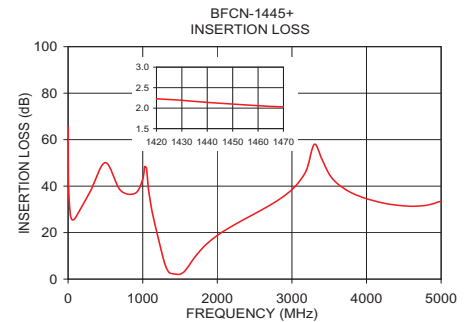


#### Functional Schematic



#### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
0.30	65.58	1781.84
300.00	37.88	99.19
700.00	38.27	70.89
1000.00	42.94	49.30
1075.00	39.44	40.47
1180.00	21.37	23.31
1300.00	6.24	3.89
1420.00	2.23	1.65
1470.00	2.03	1.31
2050.00	19.89	47.56
2400.00	26.38	60.68
2600.00	29.89	63.30
2800.00	33.65	62.92
3800.00	37.12	47.50
4900.00	32.50	32.93



#### 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.
- 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)

