

Ceramic

# Bandpass Filter

**BFCQ-3852A+**

50Ω

37 to 40 GHz

## The Big Deal

- Innovative and industry leading
- 5G n260 bandpass filter
- Low Insertion Loss – Mid band 2.5dB typical
- Surface mountable pick and place standard case style
- Small size 2.5mm x 2.0mm
- High quality distributed filter topology
- Wide rejection band



CASE STYLE: NL1008C-6

## Product Overview

The BFCQ-3852A+ LTCC Bandpass Filter covers the 5G n260 band. This corresponds to a passband of 37 to 40 GHz, with as low as 2.5dB passband loss, and up to 40dB stopband rejection. This model handles up to 1W RF input power and provides a wide operating temperature range from -55 to +125°C. Utilizing a proprietary LTCC material system and a distributed filter topology, this filter is able to achieve repeatable performance on a lot-to-lot basis, up to mmWave frequencies.

## Key Features

Feature	Advantages
5G n260 band compatible	Designed for 5G Telecommunications, n260 band, 37 – 40 GHz
Proprietary mmWave compatible LTCC material system	Low loss and repeatable performance on a lot-to-lot basis up to mmWave frequencies.
Cost effective	LTCC is scalable technology that allows for cost reduction at volume.
Small size (2.5mm x 2.0mm)	Allows for high layout density of circuit boards, while minimizing effects of parasitics.
Surface Mountable	Suitable for very high volume automated assembly process.

### 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 37 to 40 GHz

**BFCQ-3852A+**



Generic photo used for illustration purposes only

CASE STYLE: NL1008C-6

## Features

- Standard miniature 1008 package case style
- 5G n260 band compatible
- Shielded construction preventing filter from de-tuning
- Reduced footprint area by employing LGA (land grid array)
- Suited for very high-volume production
- Surface mountable

## Applications

- 5G Telecommunications

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

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

Parameter	F#	Frequency (GHz)	Min.	Typ.	Max.	Unit	
Pass Band	Center Frequency	—	—	38.5	—	GHz	
	Insertion Loss	F1-F2	37 - 38.6	—	2.9	dB	
	Return Loss (In)	F1-F2	38.6 - 40	—	2.5	3.4	dB
	Return Loss (Out)	F1-F2	37 - 40	—	10	—	dB
Stop Band, Lower	Insertion Loss	DC-F3	0.1 - 28	45	55	—	dB
		28 - 33.2	30	45	—	—	—
Stop Band, Upper	Insertion Loss	44.8 - 47	20	25	—	—	dB
		47 - 54	30	36	—	—	—
		54 - 58	20	30	—	—	—

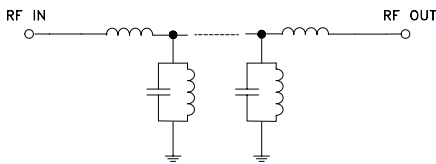
1. Measured on Mini-Circuits Test Board TB-BFCQ-3852AC+ with feedline losses removed by normalization of S12 and S21 traces to measurement of TB thru-line.

### Maximum Ratings

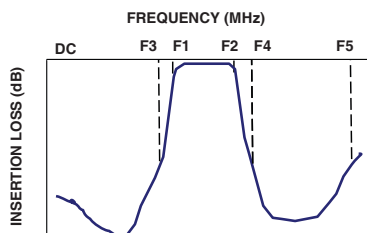
Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
RF Power Input	1W

Permanent damage may occur if any of these limits exceeded.

## Functional Schematic

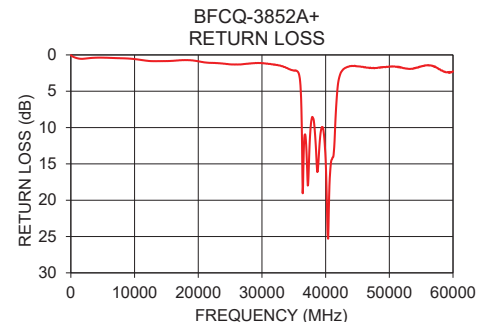
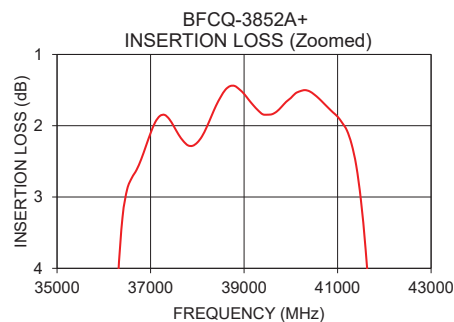
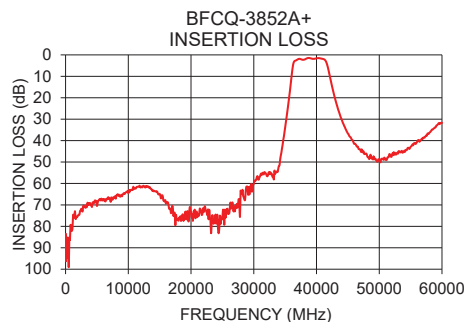


## Typical Frequency Response



## Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
10	85.26	0.05
5000	70.51	0.38
10000	64.52	0.57
20000	73.53	0.88
25000	75.86	1.30
30000	60.17	1.15
34000	51.82	1.82
37000	2.10	13.39
38500	1.60	13.18
40000	1.61	14.39
45000	36.70	1.57
45000	36.70	1.57
50000	48.91	1.59
58000	36.29	2.03
60000	31.74	2.27



## 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)



