Ceramic

Bandpass Filter

BFCO-552+

50Ω 4900 to 6100 MHz

The Big Deal

- Wide rejection band
- Rugged, ceramic construction
- Tiny size

CASE STYLE: NK0402C-1

Product Overview

Mini-Circuits' BFCO-552+ is a LTCC Bandpass Filter with a passband from 4900 to 6100 MHz, supporting a variety of applications. This model provides a very good stopband rejection due to strategically constructed layout with minimal interaction between components. It provides a wide operating temperature range from -55 to +125°C. Housed in a tiny 0402 ceramic form factor with wrap-around terminations, the filter is ideal for dense PCB layouts and with minimal performance variation due to parasitics.

Key Features

Feature	Advantages
Ultra-wide stopband	The LTCC lowpass filter provides a very good stopband rejection suitable for high end applications.
LTCC Construction	Provides repeatable performance in a rugged, ceramic package well suited for tough environments such as high humidity and temperature extremes.
Tiny size	Saves space in dense circuit board layouts and minimizes the effects of parasitics.
Wrap-around terminations	Provides excellent solderability and easy visual inspection

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Generic photo used for illustration purposes only

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+RoHS Compliant

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

Features

- Miniature size 0402 (0.039"[1.0mm] x 0.020"[0.5mm] x 0.015"[0.37mm])
- Wide rejection band
- Aqueous washable

Applications

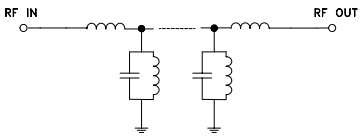
- WLAN/WIFI

Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—		—	5500		MHz
	Insertion Loss	F1-F2	4900-6100	—	1.9	2.2	dB
	Return Loss	F1-F2	4900-6100	—	11	—	dB
Stop Band, Lower	Insertion Loss	DC-F3	DC-2600	—	22	—	dB
Stop Band, Upper	Insertion Loss	F4-F5	10200-18000	—	26	—	dB

1. Tested on Evaluation Board TB-BFCO-552+

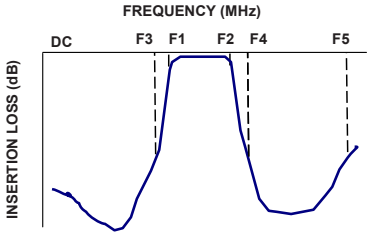
Functional Schematic



Maximum Ratings	
Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
RF Power Input	3W at 25°C

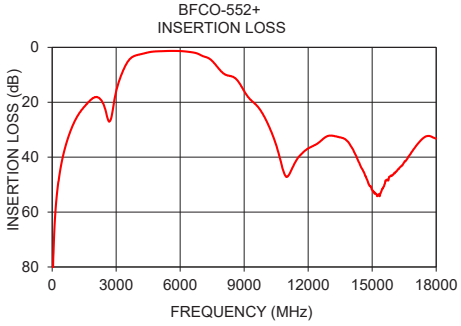
Permanent damage may occur if any of these limits exceeded.
*Refer to product storage temperature after installation
Suggestion for T&R unused product storage condition:
+5 ~ +35 °C, Humidity 45~75%RH, 12 month Max
** Derate linearly to 1W at 125°C

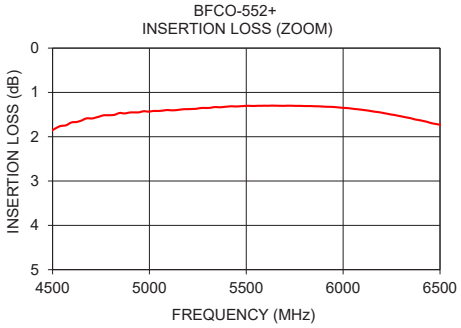
Typical Frequency Response

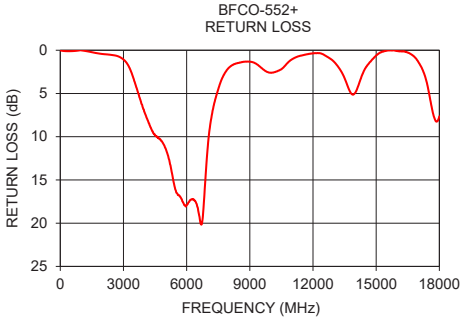


Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
10	84.96	0.00
100	66.68	0.07
1000	27.77	0.01
2600	25.69	0.61
3000	15.78	1.07
4900	1.45	10.86
5000	1.51	11.36
6100	1.39	17.57
7000	2.92	11.27
8000	9.82	2.03
10200	29.39	2.52
12000	36.93	0.36
14000	34.89	4.93
16000	46.52	0.09
17000	36.39	1.35
18000	33.54	7.65







Notes

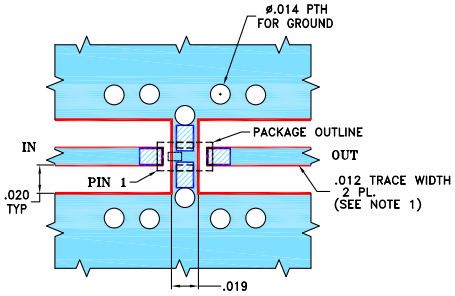
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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

Pad Connections

INPUT	3
OUTPUT	1
GROUND	2,4

Product Marking: N/A

Evaluation Board MCL P/N: TB-BFCO-552+
Suggested PCB Layout (PL-569)

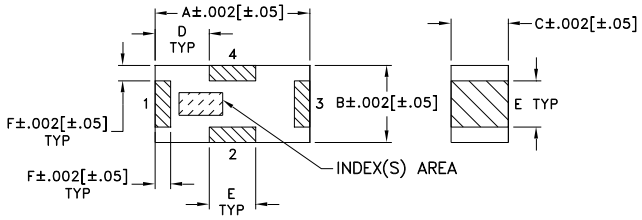


NOTES:
1. PCB IS MULTILAYER PCB, SEE STACK-UP DIAGRAM.
2. TRACE WIDTH IS SHOWN FOR FR4
   WITH DIELECTRIC THICKNESS .006±.0005. COPPER: 1/2 OZ. EACH SIDE.
   FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
3. LAYERS 2,3,4 OF THE PCB ARE CONTINUOUS GROUND PLANES.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	wt
.039	.020	.015	.014	.012	.004	grams
0.99	0.51	0.38	0.36	0.30	0.10	.0007