LTCC SURFACE MOUNT

Band Pass Filter

BFCN-1152+

50Ω 11160 to 11970 MHz

THE BIG DEAL

- Small Size, 3.2 × 1.6 mm
- Passband, 11000 to 12000 MHz
- Very High Rejection Over Wide Band
- Temperature Stable
- Hermetically Sealed
- LTCC Construction



Generic photo used for illustration purposes only

CASE STYLE: FV1206-9

+RoHS Compliant
The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- Harmonic Rejection
- Transmitters / Receivers

PRODUCT OVERVIEW

Mini-Circuits' BFCN-1152+ LTCC band pass filter achieves a miniature size and high repeatability of performance. Wrap-around terminations minimize variations in performance due to parasitics. Covering 11160 to 11970 MHz, these units offer excellent rejection over a wide stop band.

KEY FEATURES

Features	Advantages
Small Size, 3.2 × 1.6 mm	Allows for high layout density of circuit boards, while minimizing effects of parasitics.
Rejection Peaks Close to Passband	Provides good rejection of signals close to the passband, for improved system performance.
Wide Stop Band	No regrowth at 2nd harmonic permits filter to be used in presence of wideband undesired signals.
LTCC Construction	Provides a rugged package that is well suited for tough environments including high humidity and high temperature extremes.

REV. A
ECO-031453
BFCN-1152+
MCL NY
261006

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ELECTRICAL SPECIFICATIONS[1,2] AT +25 °C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	-	-	-	11540	-	MHz
	Insertion Loss	F1–F2	11160–11970	-	5.0	7	dB
	VSWR	F1–F2	11160–11970	-	1.65	-	:1
	Insertion Loss	-	11200–11400	-	4	-	dB
Stop Band, Lower	Insertion Loss	DC–F3	DC–8950	35	50	-	dB
	VSWR	DC–F3	DC–8950	-	20	-	:1
Stop Band, Upper	Insertion Loss	F4–F5	13750–20900	25	35	-	dB
	Insertion Loss	F5–F6	20900–38000	15	25	-	dB
	VSWR	F4–F6	13750–38000	-	10	-	:1

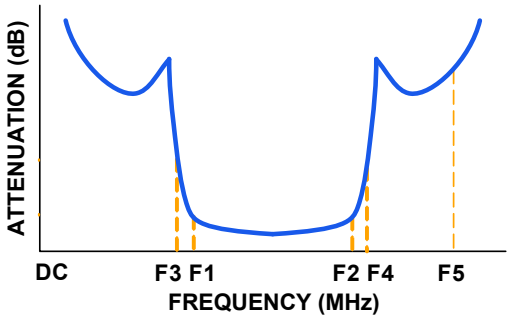
1. Measured on Mini-Circuits Characterization Test Board TB-BFCN-1152+ with feedline losses removed by normalization of S12 and S21 traces to measurement of TB thru-line.
2. This filter is not intended for use as a DC Blocking circuit element. In Applications where DC voltage is present at either input or output ports, blocking capacitors are required at the corresponding RF port.

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55 °C to +100 °C
Storage Temperature	-55 °C to +100 °C
RF Power Input[3]	2 W at +25 °C

3. Pass band rating, derate linearly to 0.5 W at +100 °C ambient.
Permanent damage may occur if any of these limits are exceeded.

TYPICAL FREQUENCY RESPONSE



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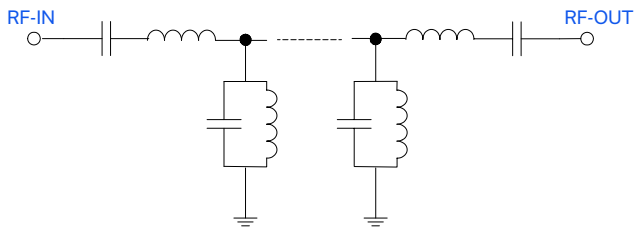
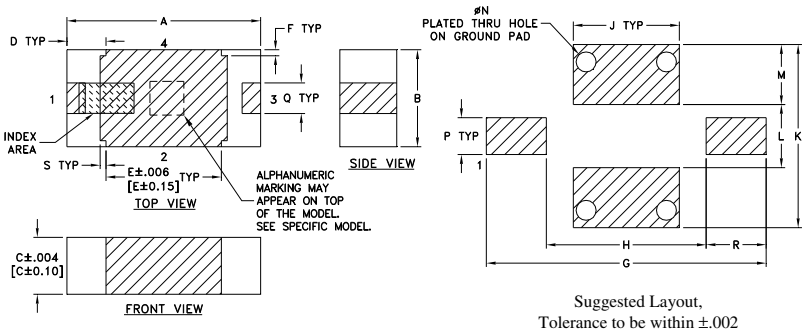
FUNCTIONAL SCHEMATIC



CASE STYLE DRAWING



Suggested Layout,
Tolerance to be within ±.002

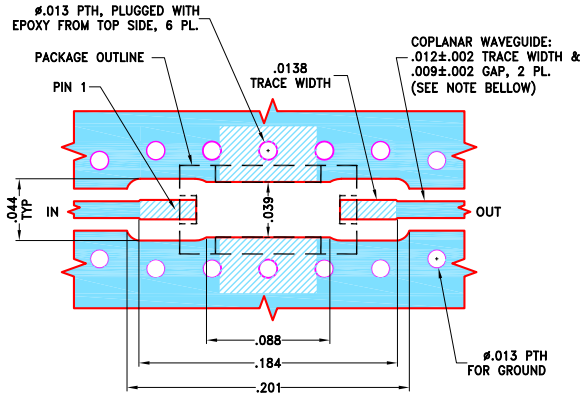
PIN CONNECTIONS

RF-IN	1
RF-OUT	3
GROUND	2

PRODUCT MARKING: JP

DEMO BOARD P/N: TB-BFCN-1152+

SUGGESTED PCB LAYOUT (PL-610)



NOTES:
1. TRACE WIDTH AND GAP PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .0066"±.0007". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. UNIT LAND PATTERN WAS OPTIMIZED FOR BETTER PERFORMANCE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

OUTLINE DIMENSIONS (Inches / mm)

A	B	C	D	E	F	G	H	J
.126	.063	.037	.026	.075	.004	.182	.104	.069
3.20	1.60	0.94	0.66	1.91	0.10	4.62	2.64	1.753

K	L	M	N	P	Q	R	S	wt
0.119	0.041	.039	.013	.024	.020	.039	.004	grams
3.023	1.041	0.99	0.33	0.61	0.51	0.99	0.10	.020

TAPE & REEL INFORMATION: F75

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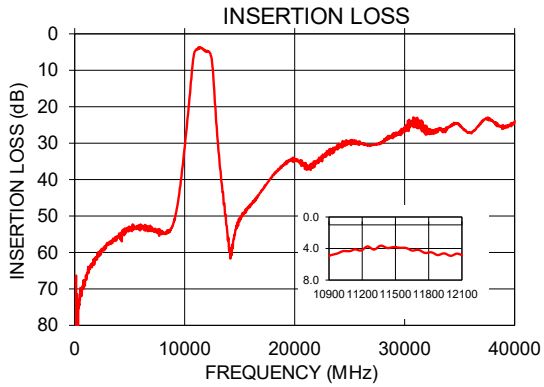
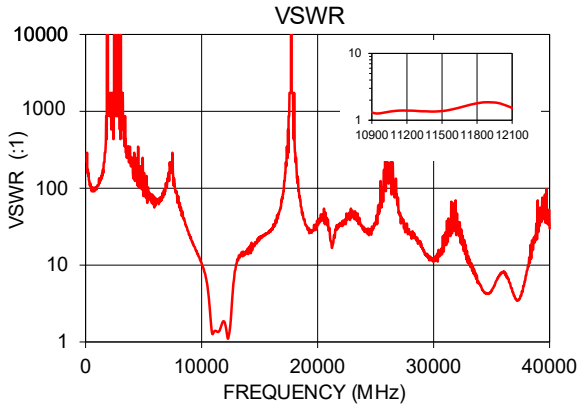
TYPICAL PERFORMANCE DATA AT +25 °C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
1000	67.38	108.58
5000	54.08	86.86
9000	51.69	23.49
10000	31.18	10.56
10600	12.50	4.02
10800	6.48	1.79
11550	3.91	1.41
11800	4.50	1.79
12600	11.62	2.99
13000	29.17	10.37
17000	42.95	82.73
25000	30.09	36.20
32000	25.63	42.38
36000	27.21	8.23
40000	23.94	29.96





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-Circuits' 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/terms/viewterm.html