LTCC SURFACE MOUNT

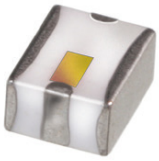
Bandpass Filter

BFCV-2610+

50Ω 2000 to 3220 MHz

THE BIG DEAL

- Low Insertion Loss, 1.9 dB Typ.
- 1210 Surface Mount Footprint
- Power Handling: 4 Watts
- Wide stopband rejection up to 8 GHz

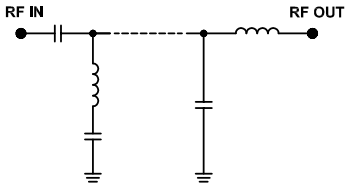


Generic photo used for illustration purposes only

APPLICATIONS

- Software Defined Radio
- WLAN
- Cellular Network

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

The BFCV-2610+ LTCC Band Pass Filter is constructed with multiple layers in order to achieve a miniature size and high repeatability of performance. Wrap-around terminations minimize variations in performance due to parasitics. These units offer low insertion loss and very good wide band rejection.

KEY FEATURES

Features	Advantages
Small Size (3.20mm x2.5 mm)	Allows for high layout density of circuit boards, while minimizing effects of parasitics.
Wrap around termination	Provides excellent solderability and easy visual inspection capability.
Wide bandwidth	Enables high data rate in communication systems.
LTCC construction	Provides a rugged package that is well suited for tough environments including high humidity and high temperature extremes.

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

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	—	—	—	2610	—	MHz
	Insertion Loss	F1-F2	2000 - 3220	—	1.9	3.8	dB
	Return Loss	F1-F2	2000 - 3220	—	9	—	dB
Stop Band, Lower	Rejection	DC-F3	DC - 1550	15	17	—	dB
		F4	1610	—	17	—	
Stop Band, Upper	Rejection	F5	4000	—	16	—	dB
		F6-F7	4500 - 8000	15	20	—	

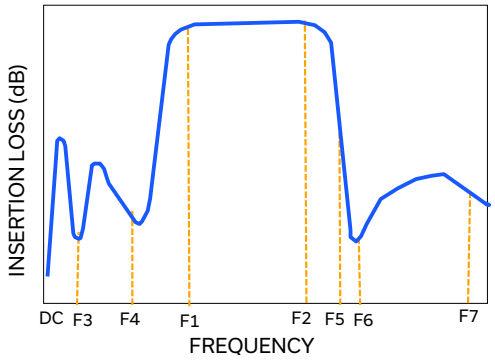
1. Tested in Evaluation Board P/N TB-BFCV-2610+.
2. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.

ABSOLUTE MAXIMUM RATINGS[4]

Parameter	Ratings
Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
Input Power[5]	4 W max @ +25°C

4. Permanent damage may occur if any of these limits are exceeded.
5. Power rating applies only to signals within the passband. Power rating above +25°C operating temperature decreases linearly to 0.25W at +100°C.

TYPICAL FREQUENCY RESPONSE AT +25°C



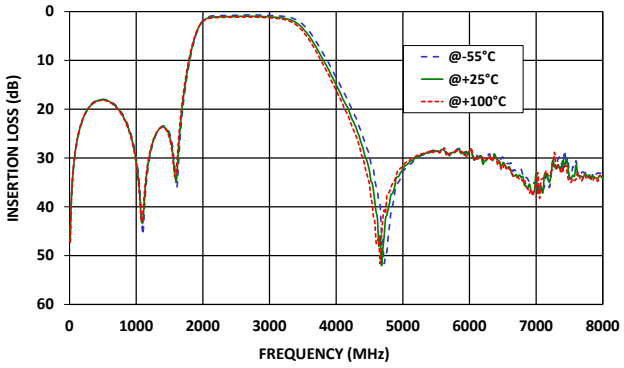
Bandpass Filter

BFCV-2610+

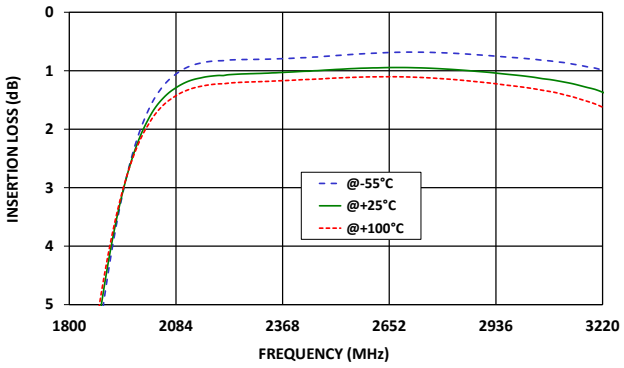
50Ω 2000 to 3220 MHz

TYPICAL PERFORMANCE GRAPHS AT +25°C

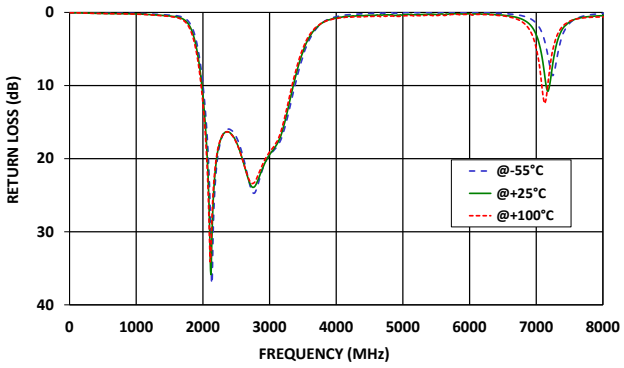
BFCV-2610+
INSERTION LOSS



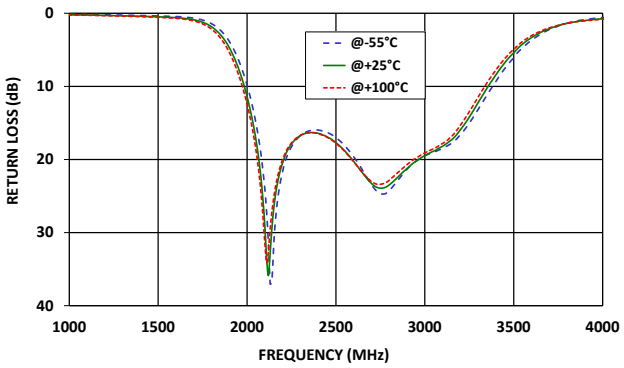
BFCV-2610+
INSERTION LOSS (Zoomed)



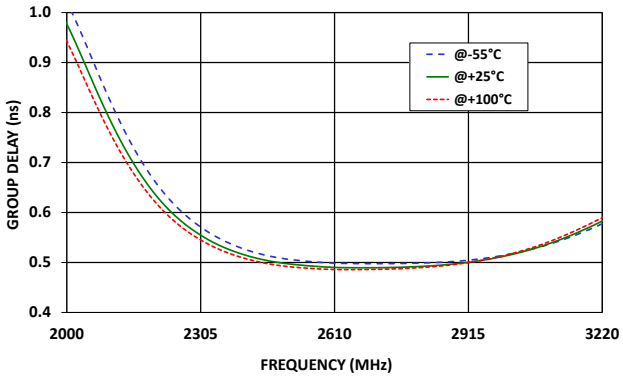
BFCV-2610+
RETURN LOSS



BFCV-2610+
RETURN LOSS (Zoomed)



BFCV-2610+
GROUP DELAY



Bandpass Filter

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FUNCTIONAL DIAGRAM

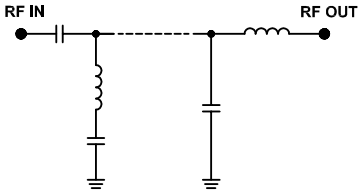
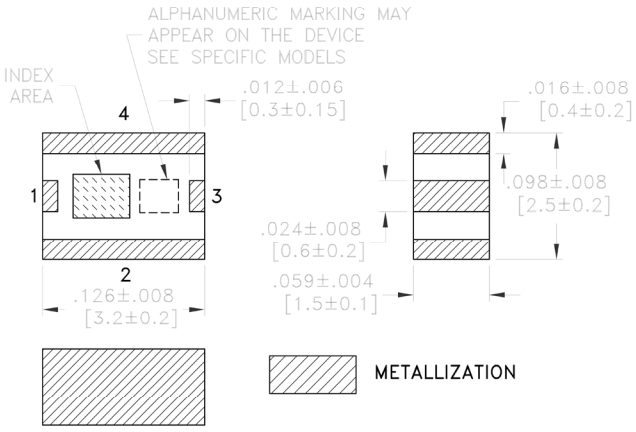


Figure 1. BFCV-2610+ Functional Diagram

PAD DESCRIPTION

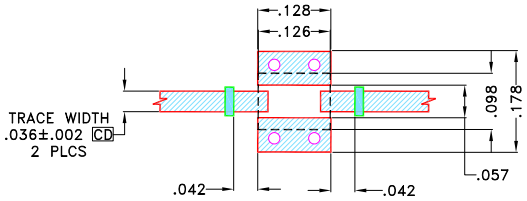
Function	Pad Number	Description
RF1[2]	1	Connects to RF Input Port
RF2[2]	3	Connects to RF Output Port
GROUND	2,4	Connects to Ground on PCB, (See drawing PL-502)

CASE STYLE DRAWING



WEIGHT: .03 grams.
DIMENSIONS ARE IN INCH [MM].

SUGGESTED PCB LAYOUT (PL-502)



NOTES:

1. TRACE WIDTH & SPACE WIDTH IS SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .0166"±.0015". COPPER 1/2 Oz. EACH SIDE FOR OTHER MATERIALS TRACE WIDTH & SPACE WIDTH 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 SOLDERMASK

Figure 2. Suggested PCB Layout PL-502

PRODUCT MARKING*: L4

*Marking may contain other features or characters for internal lot control.

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ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASH BOARD. CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads
Case Style	JV1210C Lead Finish: Tin over Nickel
RoHS Status	Compliant
Tape and Reel	TR-F74
Suggested Layout for PCB Design	PL-502
Evaluation Board	TB-BFCV-2610+ Gerber File
Environmental Rating	ENV02T1

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