LUMPED LC SURFACE MOUNT

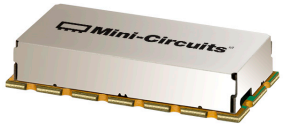
Bandpass Filter

BPF-BV175+

50Ω 162.5 to 187.5 MHz

KEY FEATURES

- Low Insertion Loss, 1.7 dB Typ.
- Passband Return Loss, 15 dB Typ.
- Miniature Shielded Package

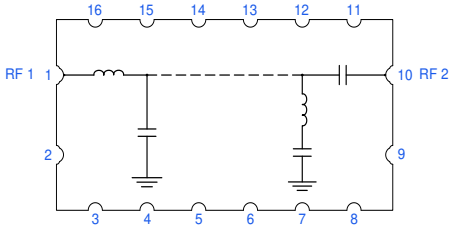


Generic photo used for illustration purposes only

APPLICATIONS

- Police Mobile Radio

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

Mini-Circuits' model BPF-BV175+ is a Lumped LC filter that offer a good insertion loss. This bandpass filter covers from 162.5-187.5 MHz. This filter has high Q capacitors and inductors to achieve a low insertion loss. It has repeatable performance across production lots.

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

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	Fc	—	—	175	—	MHz
	Insertion Loss	F1-F2	162.5 - 187.5	—	1.7	2.5	dB
	Return Loss	F1-F2	162.5 - 187.5	12	15	—	dB
Stopband, Lower	Rejection	DC-F3	DC - 135	35	45	—	dB
Stopband, Upper	Rejection	F4-F5	215 - 300	35	45	—	dB
		F5-F6	300 - 450	32	42	—	
		F6-F7	450 - 800	35	45	—	

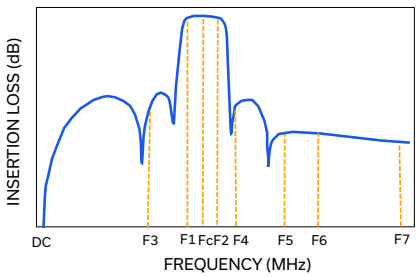
1. Tested in Evaluation Board P/N TB-BPF-BV175+.
2. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.

ABSOLUTE MAXIMUM RATINGS[3]

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power[4]	1.5 W at +25°C

3. Permanent damage may occur if any of these limits are exceeded.
4. Power rating applies only to signals within the passband. Power rating above +25°C operating temperature decreases linearly to 0.5 W at +85°C.

TYPICAL FREQUENCY RESPONSE AT +25°C



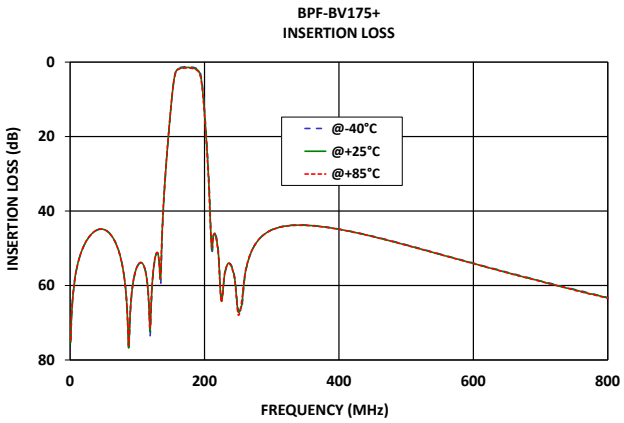
REV. OR
ECO-031258
BPF-BV175+
EDU5543
MCINU
260922

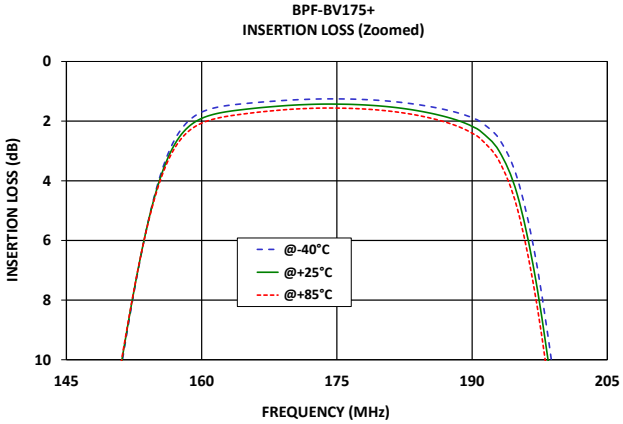
Bandpass Filter

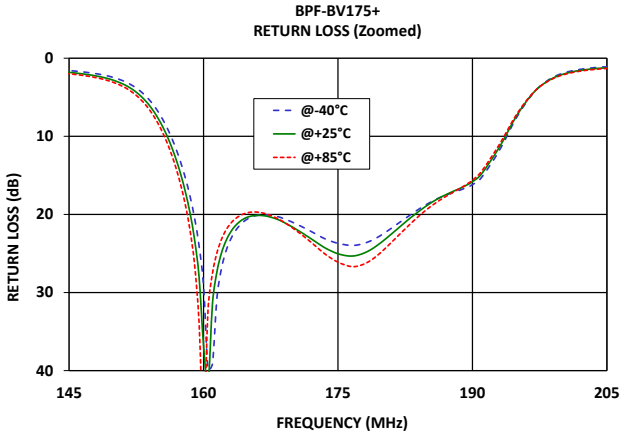
BPF-BV175+

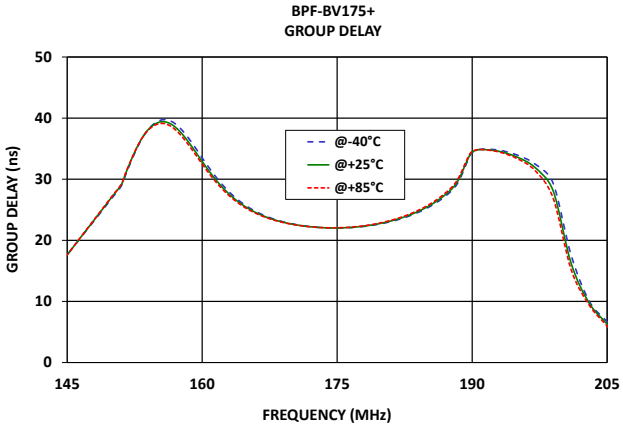
50Ω 162.5 to 187.5 MHz

TYPICAL PERFORMANCE GRAPHS









Bandpass Filter

BPF-BV175+

50Ω 162.5 to 187.5 MHz

FUNCTIONAL DIAGRAM

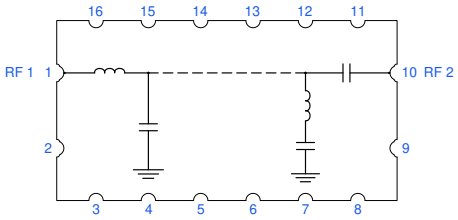
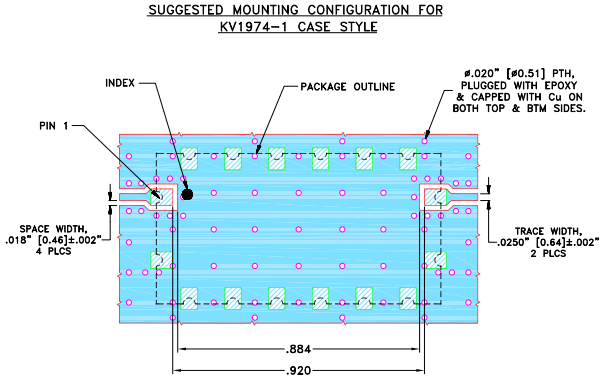


Figure 1. BPF-BV175+ Functional Diagram

PAD DESCRIPTION

Function	Pad Number	Description
RF1	1	Connects to RF Input Port
RF2	10	Connects to RF Output Port
GROUND	2-9,11-16	Connects to Ground on PCB, (See drawing PL-867)

SUGGESTED PCB LAYOUT



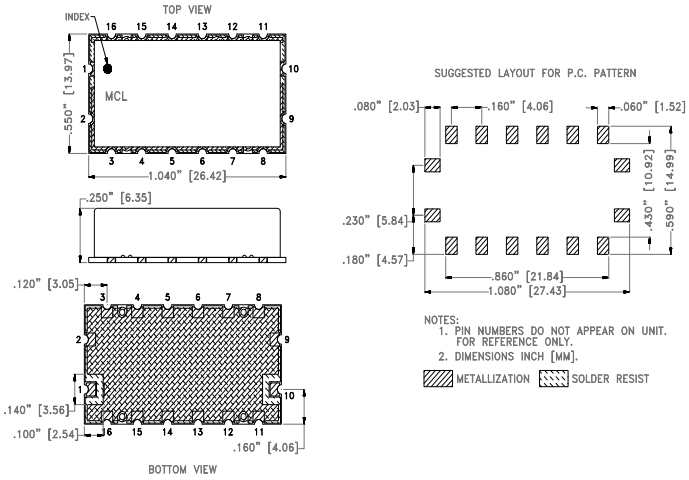
NOTES:
1. TRACE WIDTH ARE SHOWN FOR ROGERS (CLTE-MW); WITH DIELECTRIC THICKNESS .010"±.001" COPPER: 1/2 Oz EACH SIDE. FOR OTHER MATERIAL TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

Figure 2. Suggested PCB Layout

CASE STYLE DRAWING



Unit Weight: 2.5gram

Dimenions are in inches [mm]. Tolerances: 2Pl. ± .03; 3Pl. ± .015

PRODUCT MARKING*: BPF-BV175

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

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ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASHBOARD. CLICK HERE

Performance Data and Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads
Case Style	KV1974-1 Lead Finish: Gold over Nickel Plate
RoHS/REACH Status	Compliant
Tape and Reel	F005
Suggested Layout for PCB Design	PL-867
Evaluation Board	TB-BPF-BV175+
	Gerber File
Environmental Rating	ENV02T1
MSL Level	MSL1

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