



Mini-Circuits

(LUMPED LC) SURFACE MOUNT

Bandpass Filter

BPF-BY250+

50Ω 150 to 350 MHz

KEY FEATURES

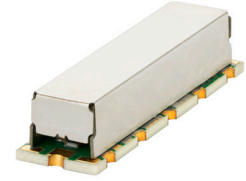
- Low Insertion Loss, 1.5 dB Typ.
- Return Loss, 18 dB Typ.
- Stop Band Rejection, 55 dB Typ.
- Miniature Shielded Package.

APPLICATIONS

- Test and Measurement.
- Transmitter/Receivers.
- Harmonic Rejection.

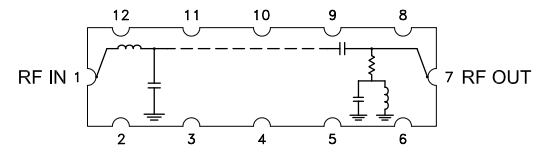
PRODUCT OVERVIEW

Mini-Circuits' Model-BPF-BY250+ is a Lumped LC filter that offer a good insertion loss and high rejection. This bandpass filter covers from 150 to 350MHz. This filter has high Q capacitors and inductors to achieve a low insertion loss. It has repeatable performance across production lots .



Generic photo used for illustration purposes only

FUNCTIONAL DIAGRAM



ELECTRICAL SPECIFICATIONS^{1,2} AT +25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency ³	Fc	—	—	250	—	MHz
	Insertion Loss	F1-F2	150 - 350	—	1.5	2.5	dB
	Return Loss	F1-F2	150 - 350	10	18	—	dB
Stop Band, Lower	Rejection	DC-F3	DC - 50	45	58	—	dB
		F3-F4	50 - 75	20	30	—	
Stop Band, Upper	Rejection	F5-F6	444 - 500	20	30	—	dB
		F6-F7	500 - 1500	45	55	—	
		F7-F8	1500 - 4000	—	30	—	

1. Tested in Evaluation Board P/N TB-BPF-BY250+.

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.

3. Typical variation $\pm 2\%$

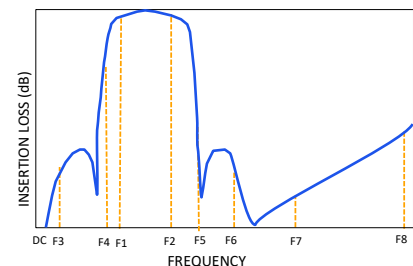
ABSOLUTE MAXIMUM RATINGS⁴

Parameter	Ratings
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +100 °C
Input Power ⁵	0.5 W

4. Permanent damage may occur if any of these limits are exceeded.

5. Power rating applies only to signals within the passband.

TYPICAL FREQUENCY RESPONSE AT +25°C



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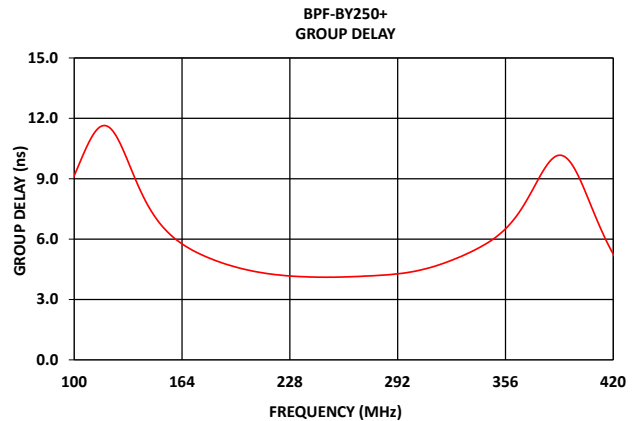
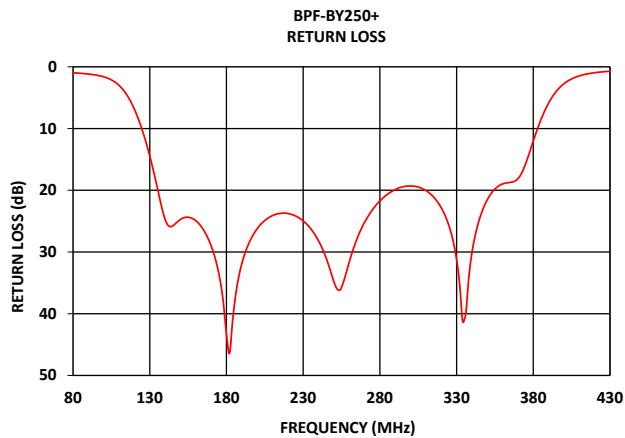
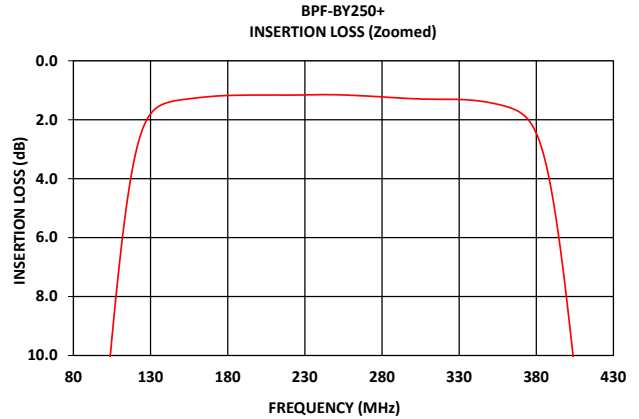
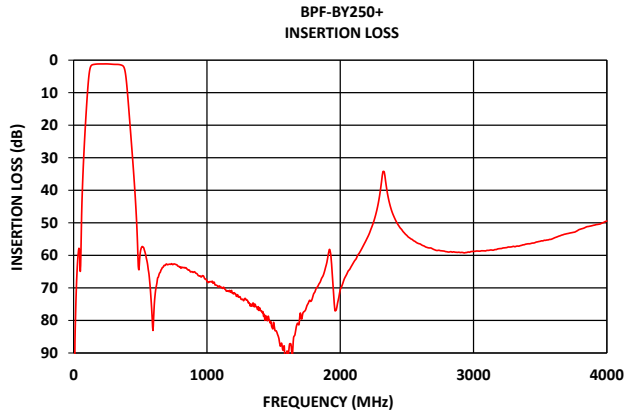
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TYPICAL PERFORMANCE GRAPHS AT +25°C





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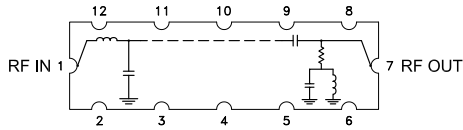
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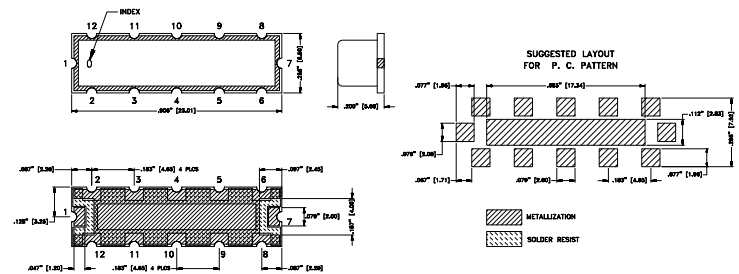
FUNCTIONAL DIAGRAM



PAD DESCRIPTION

Function	Pad Number	Description
RF1	1	Connects to RF Input Port
RF2	7	Connects to RF Output Port
GROUND	2-6,8-12	Connects to Ground on PCB, (See drawing PL-773)

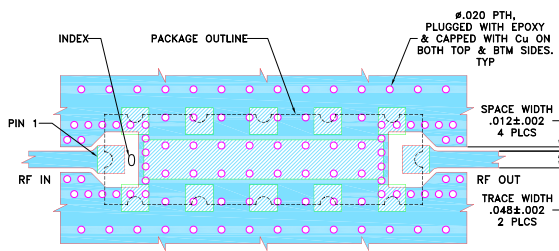
CASE STYLE DRAWING



Unit weight: 1.5 grams
 Dimensions are in inches [mm]. Tolerances: 2 Pl.±.03; 3 Pl.±.015

SUGGESTED PCB LAYOUT (PL-773)

SUGGESTED MOUNTING CONFIGURATION
 FOR ZV3471 CASE STYLE



NOTES:



1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS (R04350B) WITH DIELECTRIC THICKNESS .030±.002. 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.
-  DENOTES PCB COPPER PATTERN WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 DENOTES PCB COPPER PATTERN FREE OF SOLDERMASK

Figure 2. Suggested PCB Layout PL-773



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ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASH BOARD.

[CLICK HERE](#)

Performance Data and Graphs	Data
	Graphs
	S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads
Case Style	ZV3471 Lead Finish: Gold over Nickel Plate
RoHs Status	Compliant
Tape and Reel	TR-F010
Suggested Layout for PCB Design	PL-773
Evaluation Board	TB-BPF-BY250+
	Gerber File
Environmental Rating	ENV02T1

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-Circuits' applicable established test performance criteria and measurement instructions.
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