



(LUMPED LC) SURFACE MOUNT High Pass Filter

HPF-BZ50+

50Ω 50 to 1500 MHz

KEY FEATURES

- Low Insertion Loss, 0.5 dB Typ.
- High Power Handling of 8 W
- Stop Band Rejection, 70 dB Typ.
- Miniature Shielded Package

APPLICATIONS

- Transmitters/Receivers
- Military

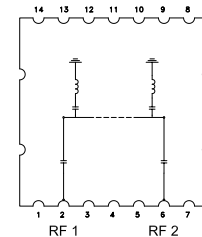
PRODUCT OVERVIEW

Mini-Circuits' Model-HPF-BZ50+ is a Lumped LC filter that offer a good insertion loss and high rejection. This highpass filter covers from 50 to 1500 MHz. 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
Pass Band	Insertion Loss	F3-F4	50 - 1000	—	0.5	1.5	dB
		F4-F5	1000 - 1500	—	1.5	—	
	Return Loss	F3-F4	50 - 1000	8	14	—	dB
		F4-F5	1000 - 1500	—	12	—	
Stop Band	Rejection	DC-F1	DC - 5	60	70	—	dB
		F1-F2	5 - 25	20	34	—	
	Freq. Cut-Off ³	Fc	39	—	3	—	dB

1. Tested in Evaluation Board P/N TB-HPF-BZ50+.

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 ± 2%.

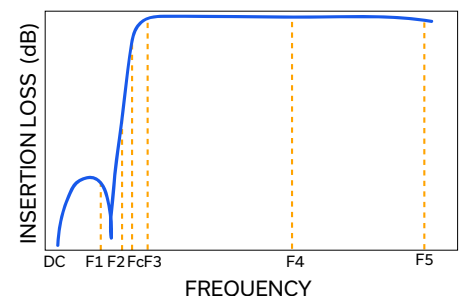
ABSOLUTE MAXIMUM RATINGS⁴

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power ⁵	8 W at 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 3 W at +85°C.

TYPICAL FREQUENCY RESPONSE AT +25°C





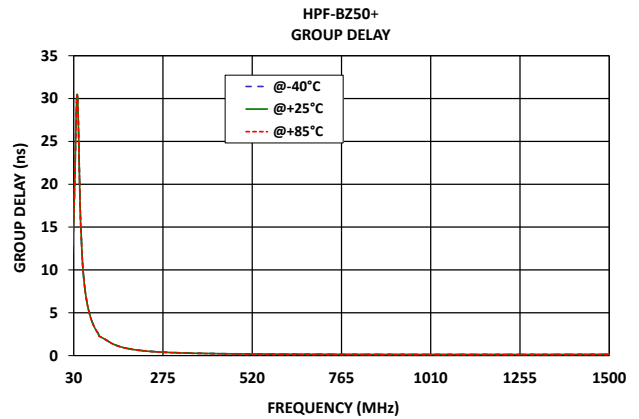
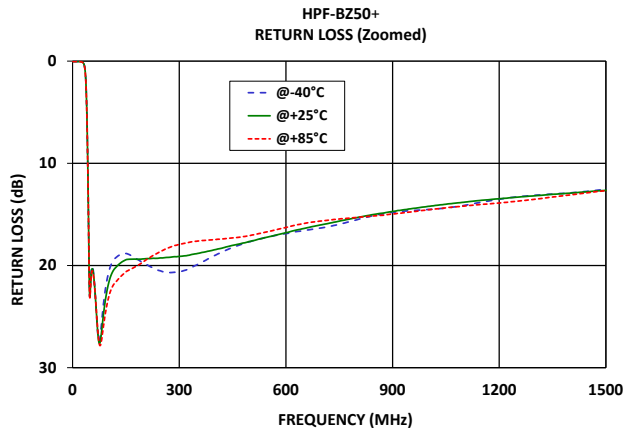
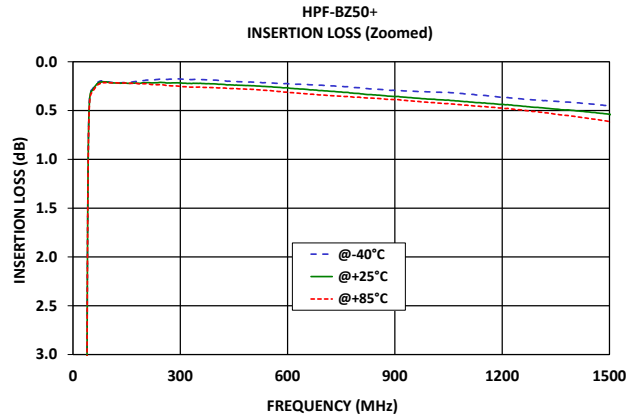
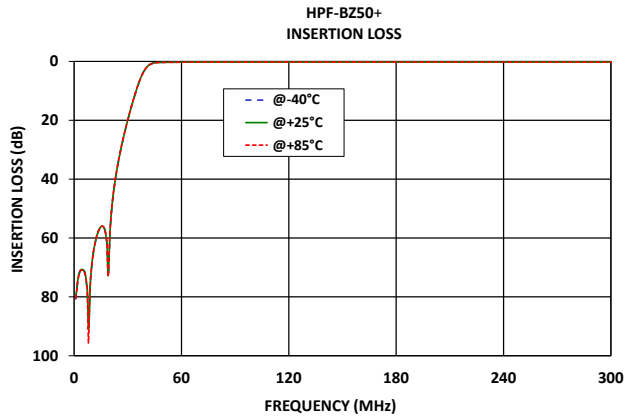
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TYPICAL PERFORMANCE GRAPHS





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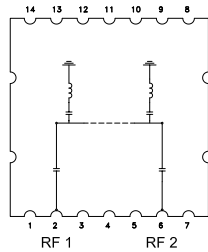


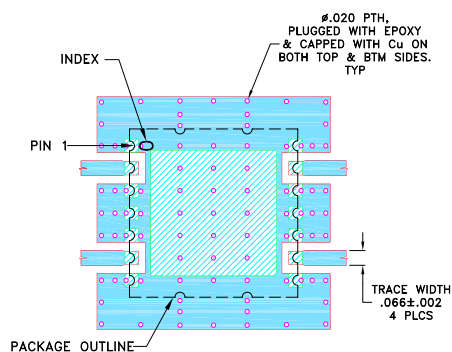
Figure 1. HPF-BZ50+ Functional Diagram

PAD DESCRIPTION

Function	Pad Number	Description
RF1 ²	2	Connects to RF Input Port
RF2 ²	6	Connects to RF Output Port
GROUND	1,3,4,5,7,8,10,11,12,14	Connects to Ground on PCB, (See drawing PL-790)
NC	9,13	No connection, not used internally. See drawing PL-790 for connection to PCB

SUGGESTED PCB LAYOUT (PL-790)

SUGGESTED MOUNTING CONFIGURATION
FOR CASE STYLE AAZ1482-2

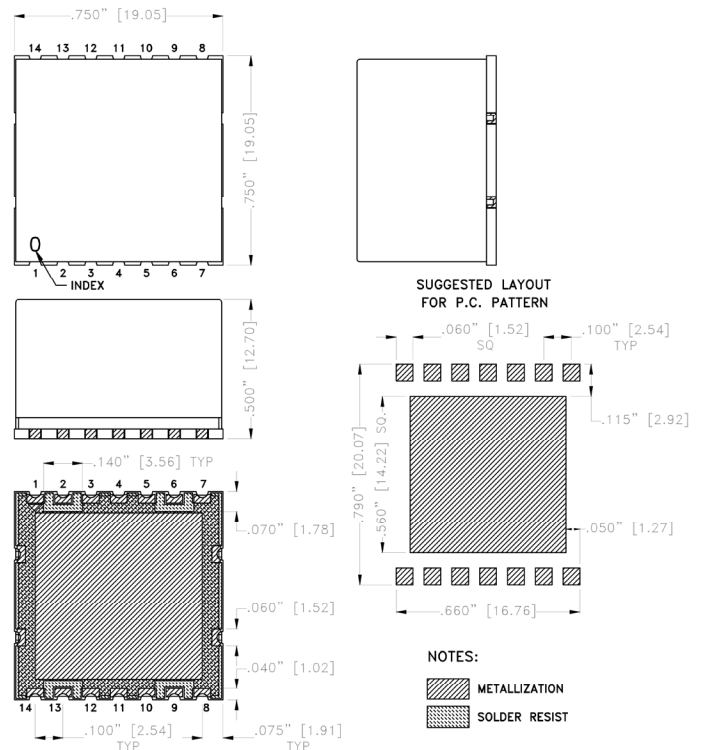


NOTES:

- TRACE WIDTH ARE SHOWN FOR ROGERS (R04350B) WITH DIELECTRIC THICKNESS .030±.002. COPPER: 1/2 Oz. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
 - 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-790

CASE STYLE DRAWING



Weight: 5 gram

Dimensions are in inches (mm). Tolerances: 2Pl. ± .03; 3Pl. ± .015

PRODUCT MARKING*: HPF-BZ50

*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 and Graphs	Data
	Graphs
	S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads
Case Style	AAZ1482-2 Lead Finish: Electroless Nickel Immersion Gold
RoHS Status	Compliant
Tape and Reel	TR-F011
Suggested Layout for PCB Design	PL-790
Evaluation Board	TB-HPF-BZ50+
	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

