(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

Generic photo used for illustration purposes only

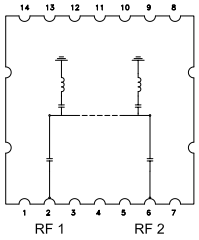
APPLICATIONS

- 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.

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

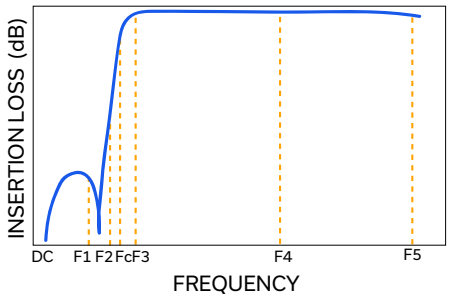
1. Tested in Evaluation Board P/N TB-HPF-BZ50+.
2. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.
3. Typical variation ± 2%.

ABSOLUTE MAXIMUM RATINGS[4]

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



REV. OR
ECO-023048
HPF-BZ50+
EDU4868
URJ
240916

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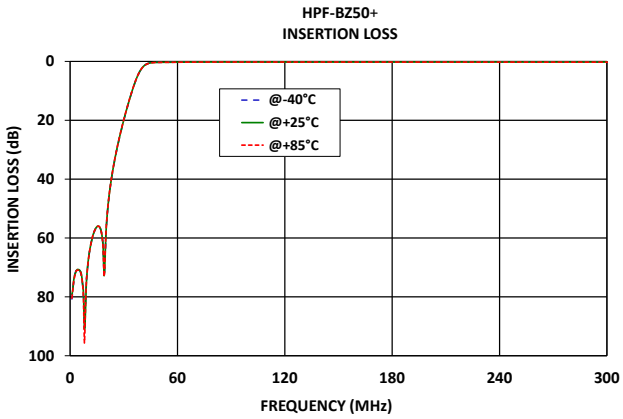
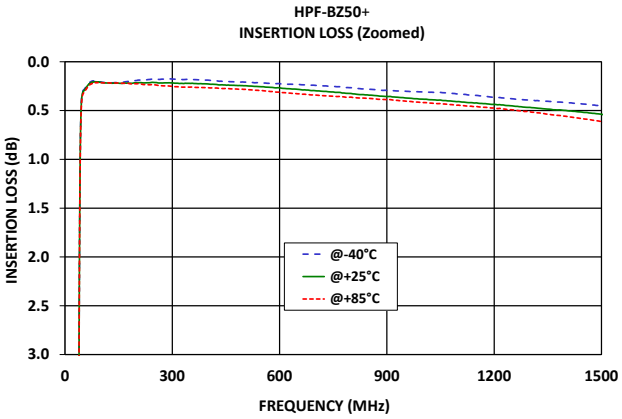
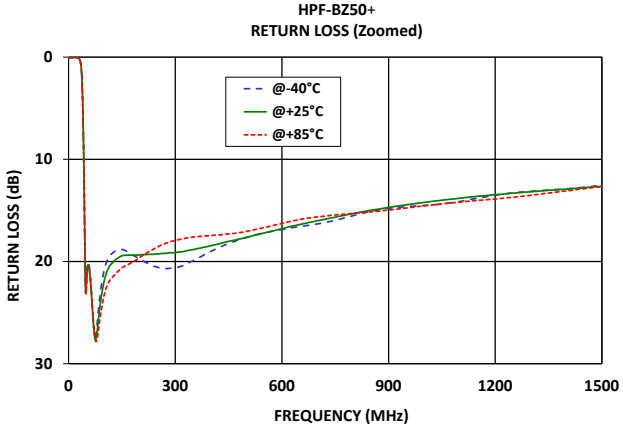
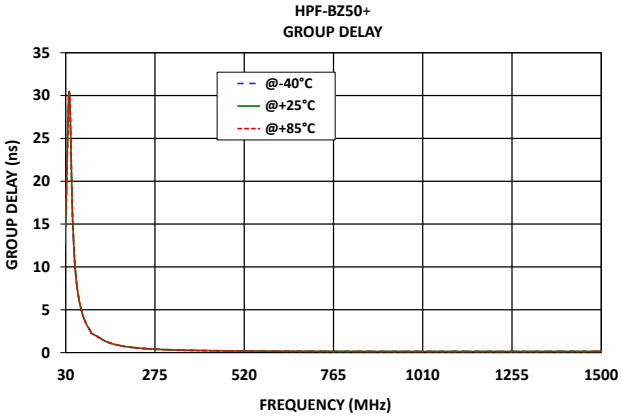
TYPICAL PERFORMANCE GRAPHS









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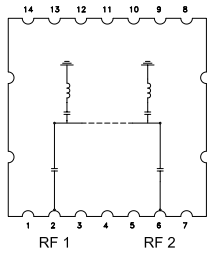


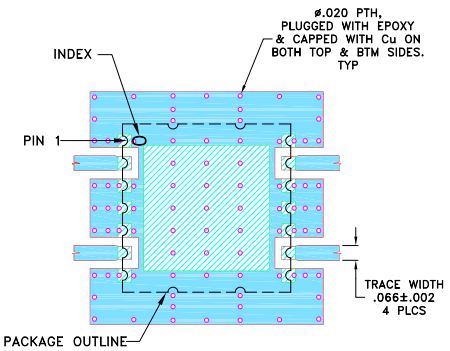
Figure 1. HPF-BZ50+ Functional Diagram

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



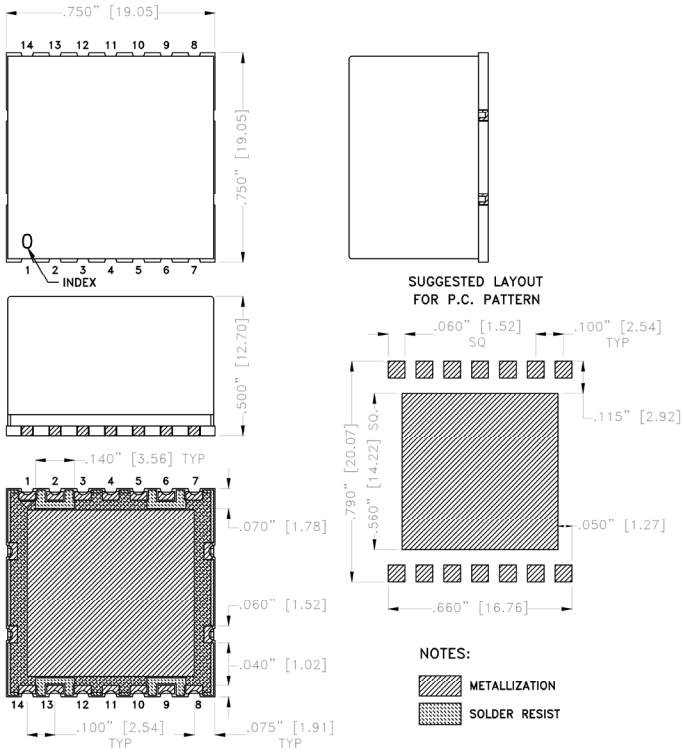
NOTES:
1. TRACE WIDTH ARE SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .030±.002. COPPER: 1/2 Oz. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES PCB COPPER PATTERN FREE OF SOLDERMASK

Figure 2. Suggested PCB Layout PL-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.
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