



Mini-Circuits

LUMPED LC SURFACE MOUNT

High Pass Filter

RHP-27+

50 Ω

50 to 2000 MHz

KEY FEATURES

- Low Insertion Loss, 0.6 dB Typ.
- High Rejection 80 dB Typ.
- Miniature Shielded Case
- Aqueous Washable

APPLICATIONS

- Transmitters / Receivers
- Sub-Harmonic Rejection
- Military Communications

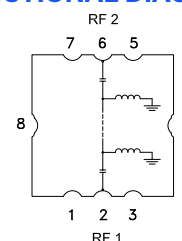
PRODUCT OVERVIEW

RHP-27+ is a 50 Ω high pass filter fabricated using SMT technology. It covers 50-2000 MHz and is built with high-Q capacitors and inductors for superior performance. It has repeatable performance across lots and consistent performance across temperatures. The filter comes with a shielded case in a miniature package with 0.35" SQ. It is ideal for circuit board layouts.



Generic photo used for illustration purposes only

FUNCTIONAL DIAGRAM

ELECTRICAL SPECIFICATIONS^{1,2,3} AT +25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Insertion Loss	F3-F4	50 - 2000	—	0.6	1	dB
	Return Loss	F4-F5	50 - 2000	10	20	—	dB
Stopband	Rejection	DC-F1	DC - 10	60	80	—	dB
	Freq. Cut-Off	F1-F2	10 - 18	20	30	—	dB
		Fc	27	—	3	—	dB

1. Tested in Evaluation Board P/N TB-RHP-27+.

2. This filter is bi-directional RF1 and RF2 ports may be interchanged, see S-Parameters for actual performance.

3. 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.

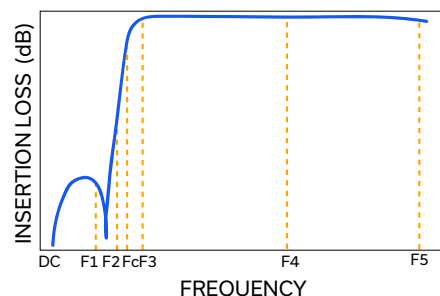
ABSOLUTE MAXIMUM RATINGS⁴

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power ⁵	1 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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REV. OR
ECO-024893
RHP-27+
EDU5070
URJ
250318

PAGE 1 OF 4



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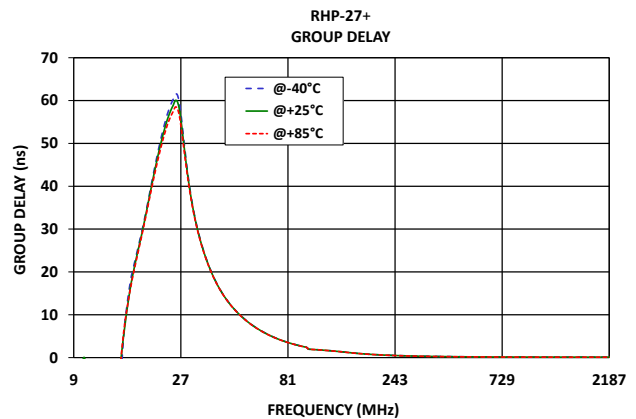
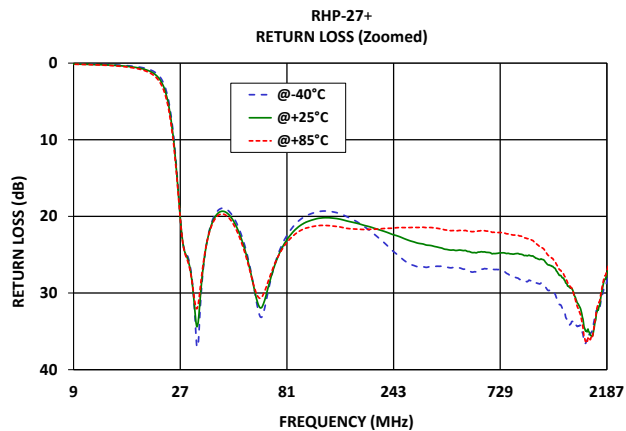
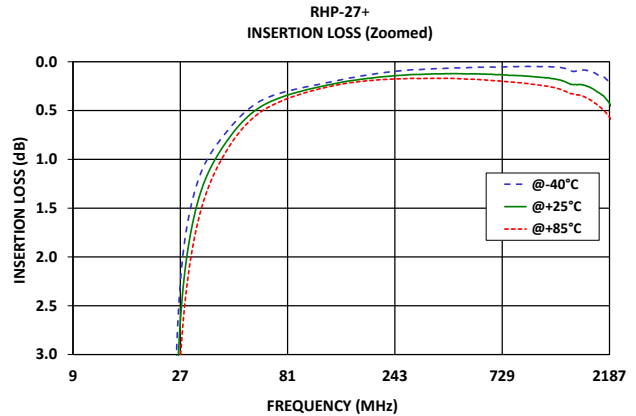
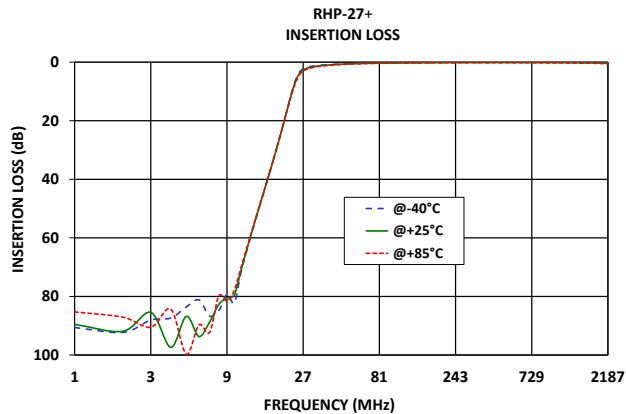
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TYPICAL PERFORMANCE GRAPHS



FUNCTIONAL DIAGRAM

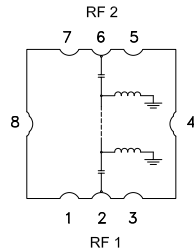


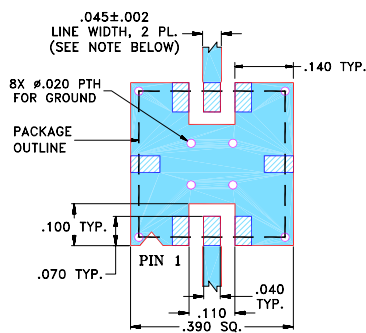
Figure 1. RHP-27+ Functional Diagram

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	Connects to Ground on PCB, (See drawing PL-176)
NC	—	No connection, not used internally. See drawing PL-176 for connection to PCB

SUGGESTED PCB LAYOUT (PL-176)

SUGGESTED MOUNTING CONFIGURATION
FOR GP731 CASE STYLE, "qf" PIN CONNECTION.





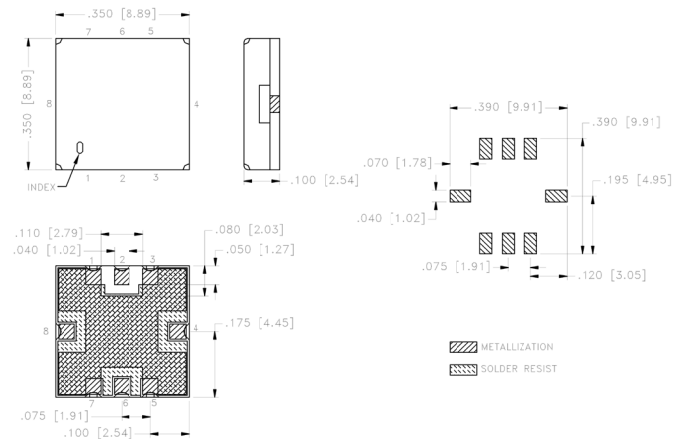
- NOTES:**
1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .025" ± .002"; COPPER: 1/2 OZ. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
 2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
-  DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
-  DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Figure 2. Suggested PCB Layout PL-176

CASE STYLE DRAWING



Weight: 0.5 gram

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

PRODUCT MARKING*: RHP-27

*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	GP731 Lead Finish: Gold over Nickel
RoHS Status	Compliant
Tape and Reel	TR-F78
Suggested Layout for PCB Design	PL-176
Evaluation Board	TB-RHP-27+
	Gerber File
Environmental Rating	ENV03T2

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

