



LUMPED LC SURFACE MOUNT

Bandpass Filter

RBPF-246+

50Ω

236 to 256 MHz

KEY FEATURES

- Low Insertion Loss, 2.7 dB Typ.
- High Rejection, 33 dB Typ.
- Miniature Shielded Package

APPLICATIONS

- Military-Aircraft
- Marine Communication

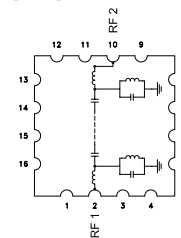
PRODUCT OVERVIEW

The RBPF-246+ is a 50Ω bandpass filter fabricated using SMT technology. This bandpass filter covers from 236-256 MHz. This filter is built with high Q capacitors, chip inductors and wire wound inductors for superior performance. In addition it has repeatable performance across production lots and consistent performance across temperature.



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
Center Frequency	—	—	—	246	—	MHz
Passband						
Insertion Loss	F1-F2	236 - 256	—	2.7	4	dB
Return Loss	F1-F2	236 - 256	12	17.7	—	dB
Stop Band, Lower	Rejection	DC - F3	20	31	—	dB
Stop Band, Upper	Rejection	F4-F5	20	33	—	dB

1. Tested in Evaluation Board P/N TB-RBPF-246+.

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.

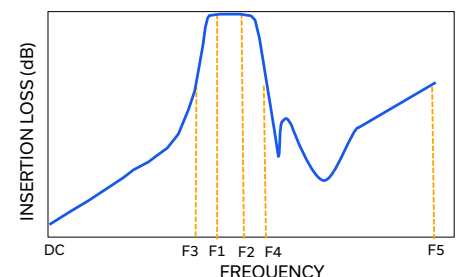
ABSOLUTE MAXIMUM RATINGS⁴

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power ⁵	0.15 W max. 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.

TYPICAL FREQUENCY RESPONSE AT +25°C





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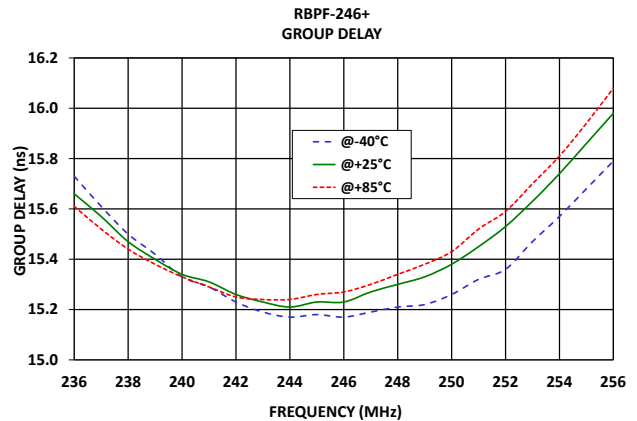
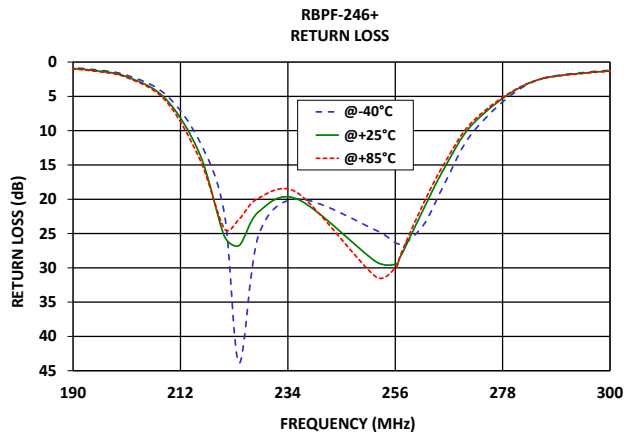
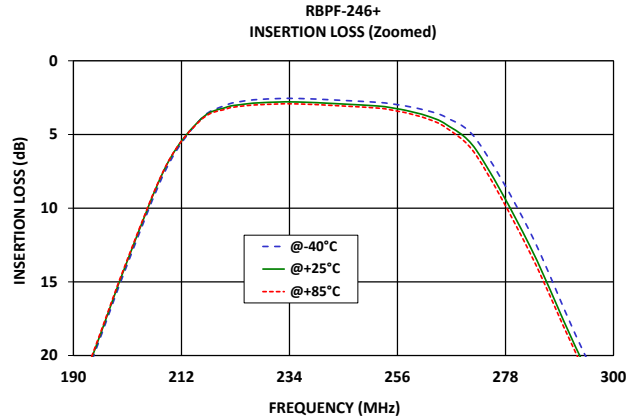
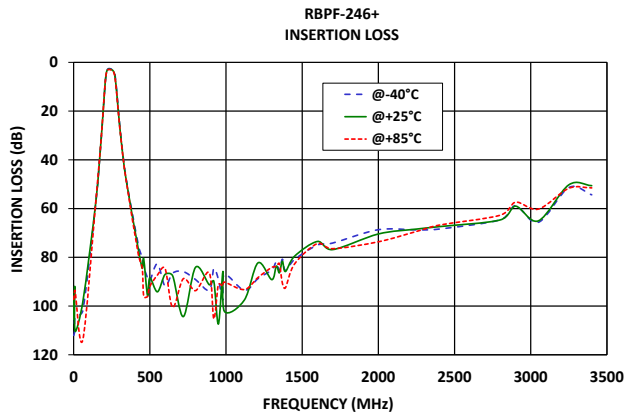
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TYPICAL PERFORMANCE GRAPHS





FUNCTIONAL DIAGRAM

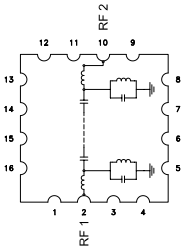
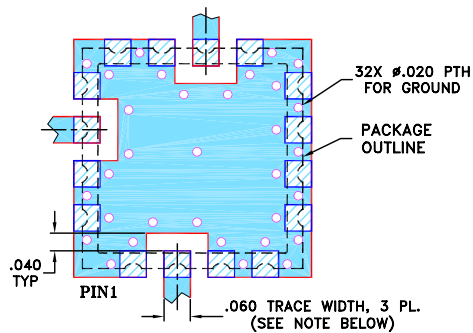


Figure 1. RBPF-246+ Functional Diagram

PAD DESCRIPTION

Function	Pad Number	Description
RF1 ²	2	Connects to RF Input Port
RF2 ²	10	Connects to RF Output Port
GROUND	1,3-9,11-13,15,16	Connects to Ground on PCB, (See drawing PL-012)
NC	14	No connection, not used internally. See drawing PL-012 for connection to PCB

SUGGESTED PCB LAYOUT (PL-012)

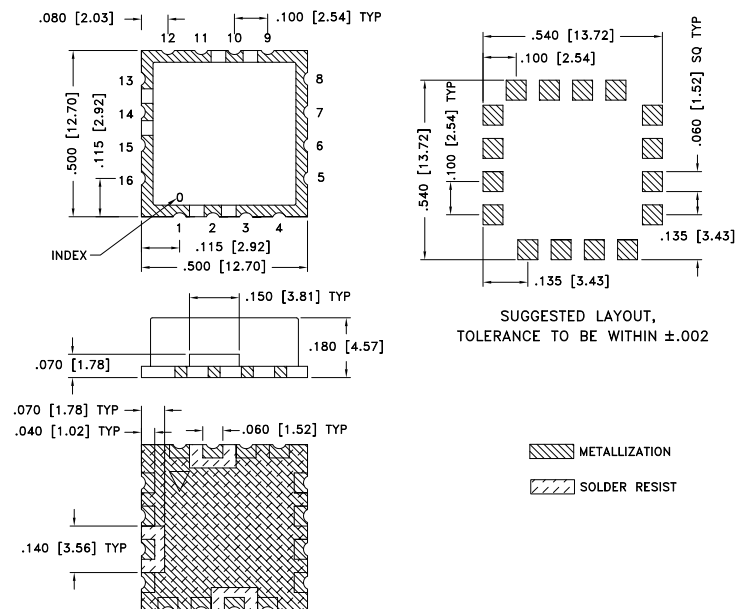


- NOTES: 1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Figure 2. Suggested PCB Layout PL-012

CASE STYLE DRAWING



Weight: 1.2 gram

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

PRODUCT MARKING*: RBPF-246

*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	CK605 Lead Finish: Gold over Nickel Plate
RoHS Status	Compliant
Tape and Reel	TR-F37
Suggested Layout for PCB Design	PL-012
Evaluation Board	TB-RBPF-246+
	Gerber File
Environmental Rating	ENV44

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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