



THIN FILM COAXIAL

# Low Pass Filter

## ZALF-K12000+

50Ω DC to 12 GHz 2.92mm Female

### KEY FEATURES

- Low Passband Insertion Loss, 1.2 dB Typ.
- High Rejection, 40 dB Typ.
- Small Size

### APPLICATIONS

- X- Band Radar
- Test and Measurement Equipment
- SATCOM Modems

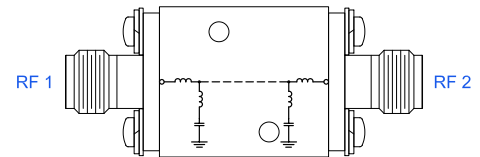
### PRODUCT OVERVIEW

Mini-Circuits' Connectorized Thin-Film filters offer low insertion loss and high rejection realized via Thin-Film on Alumina substrate, using a sputtering process that can guarantee an enhanced Q and repeatable performance. Low pass, high pass, and bandpass connectorized thin-film designs can be realized with this technology up to 40 GHz in a small form factor helping customers achieve their SWaP objectives. Using our high quality thin-film manufacturing process we can guarantee repeatability on large batches of filters.



Generic photo used for illustration purposes only

### FUNCTIONAL DIAGRAM



### ELECTRICAL SPECIFICATIONS<sup>1</sup> AT +25°C

Parameter	F#	Frequency (GHz)	Min.	Typ.	Max.	Units	
Passband	Insertion Loss	DC-F1	DC - 12	—	1.2	1.8	dB
	Freq. Cut-Off <sup>2</sup>	Fc	13.8	—	3	—	dB
	Return Loss	DC-F1	DC - 12	—	12	—	dB
Stopband	Rejection	F2-F3	15.6 - 17	25	30	—	dB
		F3-F4	17 - 20	35	40	—	
		F4-F5	20 - 25	—	30	—	

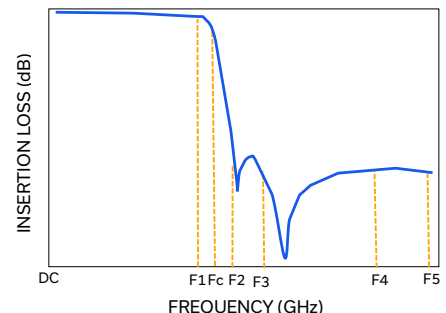
1. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.  
 2. Typical variation ± 3%

### ABSOLUTE MAXIMUM RATINGS<sup>3</sup>

Parameter	Ratings
Operating Temperature	-55°C to +125°C
Storage Temperature	-55°C to +125°C
Input Power <sup>4</sup>	9 W at 25°C

3. Permanent damage may occur if any of these limits are exceeded.  
 4. Power rating applies only to signals within the passband.

### TYPICAL FREQUENCY RESPONSE





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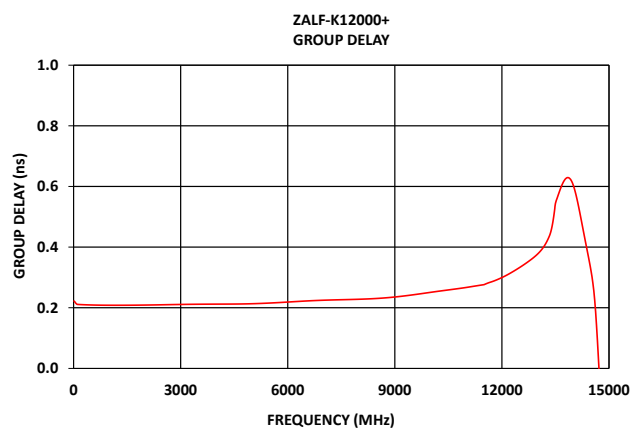
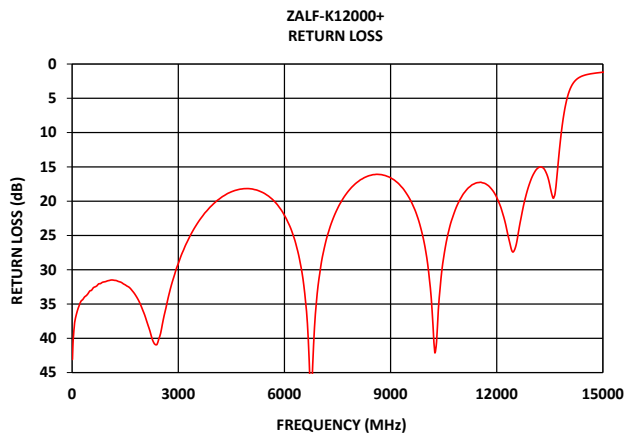
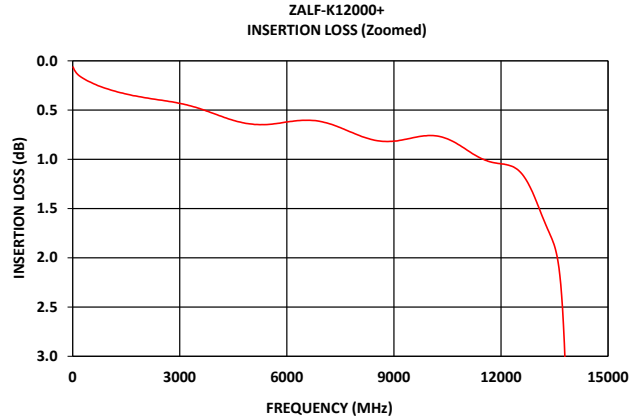
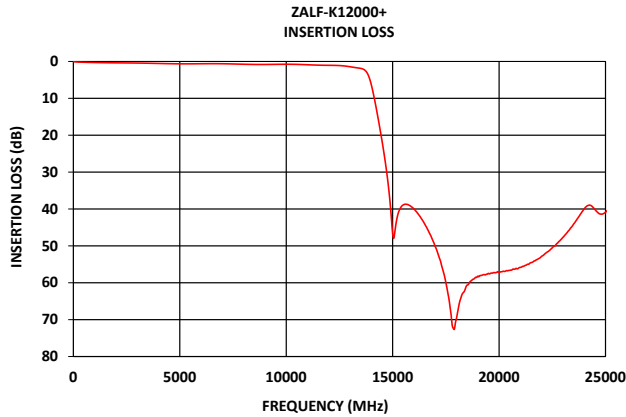
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Mini-Circuits

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### TYPICAL PERFORMANCE GRAPHS





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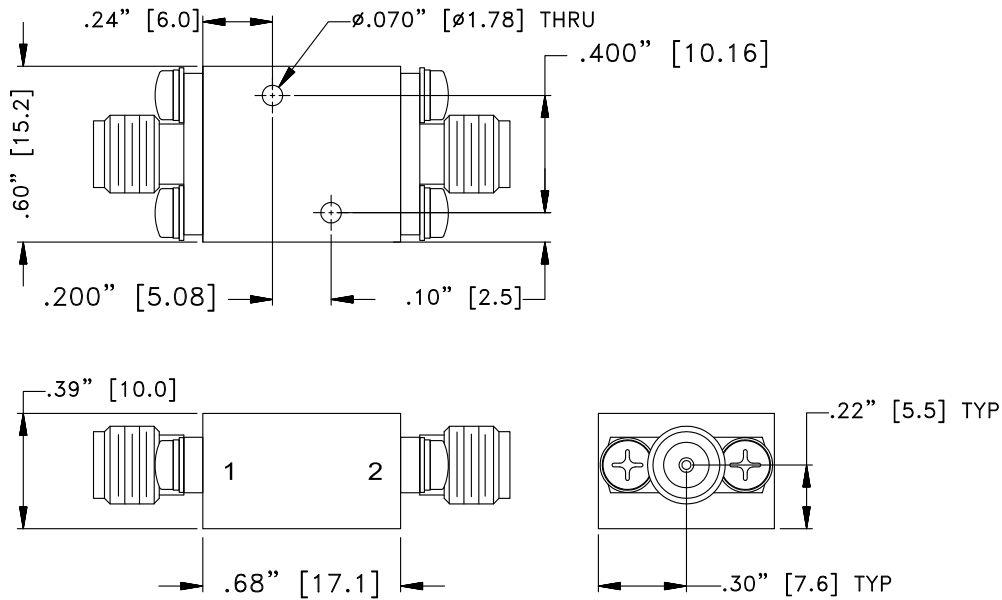
50Ω DC to 12 GHz 2.92mm Female

### CONNECTOR DESCRIPTION

Function	Connector
RF1 <sup>5</sup>	2.92mm Female
RF2 <sup>5</sup>	2.92mm Female

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

### CASE STYLE DRAWING



Unit weight: 24grams

Dimensions are in inches (mm). Tolerances: 2 Pl.±.050"; 3 Pl.±.015"

### PRODUCT MARKING\*: ZALF-K12000+

\*Marking may contain other features or characters for internal lot control.



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ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD

[CLICK HERE](#)

Performance Data & Graphs	<p>Data</p> <p>Graphs</p> <p>S-Parameter (S2P Files) Data Set (.zip file)</p>
Case Style	UK3042
RoHS Status	Compliant
Environmental Ratings	ENV144

### 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](http://www.minicircuits.com/terms/viewterm.html)

