

Coaxial Reflectionless High Pass Filter

ZXHF Series

50Ω

DC to 20 GHz

The Big Deal

- Patented design terminates stopband signal internally
- Wideband performance upto 20 GHz
- Small In-line package size of 0.80" x 0.56"



CASE STYLE: RA2937

Product Overview

Mini-Circuits' ZXHF Series reflectionless filters employs a novel filter topology which absorbs and terminates stop band signals internally rather than reflecting them back to the source. Reflectionless filters eliminate stopband reflections, allowing them to be paired with sensitive devices and used in applications that otherwise require circuits such as isolation amplifiers or attenuators. This is developed in a new broadband, stable connectorized package.

Key Features

Feature	Advantages
Easy integration with sensitive reflective components, e.g. mixers, multipliers	Reflectionless filters absorb unwanted signals, preventing reflections back to the source. This reduces generation of additional unwanted signals without the need for extra components like attenuators, improving system dynamic range.
Cascadable	Reflectionless filters can be cascaded in multiple sections to provide sharper and higher attenuation, while also preventing any standing waves that could affect pass band signals.
Excellent stability over temperature	Ensures minimal variation in electrical performance across temperature.
Wide Operating temperature from -40 to +85°C	Suitable for use in wide temperature range applications
Broadband connectorized package	The connectorized package works well even in high frequencies and easy to interface with other devices. This is well suited for test setups.

Coaxial Reflectionless High Pass Filter

50Ω 4.8 to 19 GHz

ZXHF-K482M+



Generic photo used for illustration purposes only

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Connectors	Model
2.92mm-F to 2.92mm-M	ZXHF-K482M+

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Features

- Match to 50Ω in the stop band, eliminates undesired reflections
- Cascadable
- Temperature stable, up to 85°C
- Protected by US Patent No. 8,392,495

Applications

- Wi-Fi
- WiMax
- Microwave Radio
- Military & Space

Electrical Specifications at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Stop Band	Rejection	DC-F'	DC - 2400	24	35	-	dB
		F'-F1	2400 - 3500	24	30	-	dB
	Freq. Cut-Off	F2	4370	-	3.0	-	dB
	VSWR	DC-F'	DC - 2400	-	1.3	-	:1
Pass Band	VSWR	F'-F1	2400 - 3500	-	1.3	-	:1
	Insertion Loss	F3-F5	4800 - 19000	-	1.4	2.5	dB
	VSWR	F3-F5	4800 - 19000	-	1.5	-	:1

Absolute Maximum Ratings³

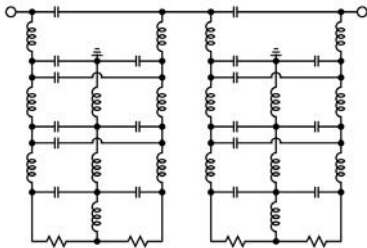
Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
RF Power Input, Passband (F3-F5) ¹	1.3W at 25°C
RF Power Input, Stopband (DC-F3) ²	1.6W at 25°C

¹ Passband rating derates linearly to 0.6W at 85°C ambient

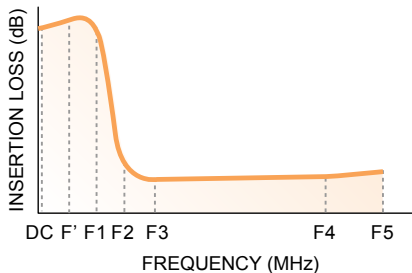
² Stopband rating derates linearly to 0.8W at 85°C ambient

³ Permanent damage may occur if any of these limits are exceeded

Functional Schematic

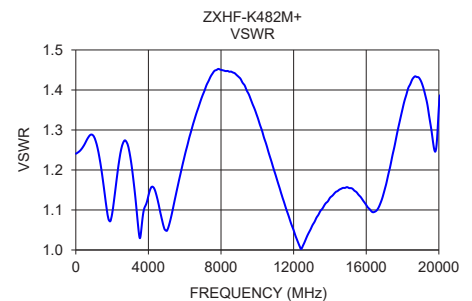
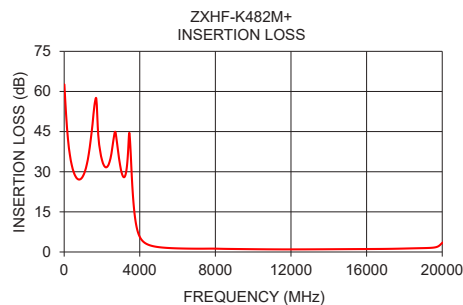


Typical Frequency Response



Typical Performance Data at 25°C

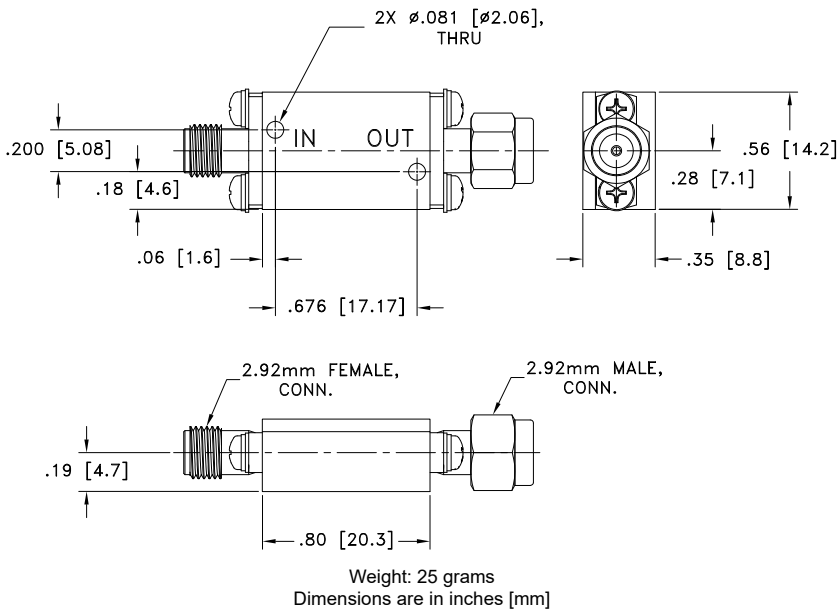
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
10	62.64	1.24
100	51.47	1.24
500	29.93	1.27
1000	28.45	1.28
1500	47.77	1.17
2000	34.39	1.09
2400	33.67	1.23
3000	30.85	1.23
3800	10.48	1.11
4500	2.58	1.13
5500	1.50	1.14
7000	1.23	1.39
8500	1.17	1.45
10000	1.04	1.33
11500	0.97	1.12
13000	0.99	1.06
14500	1.05	1.15
16000	1.10	1.11
18000	1.29	1.35
20000	3.38	1.36



Coaxial Connections

PORT - IN	2.92mm-Fem
PORT - OUT	2.92mm-Male

Outline Drawing



Additional Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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/MCLStore/terms.jsp