Coaxial Reflectionless

High Pass Filter

ZXHF Series

50Ω DC to 30 GHz

The Big Deal

- Patented design eliminates in band spurs
- Wideband performance up to 30 GHz

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	Minimal variation in electrical performance across temperature.
Operating temperature up to 105˚C	Suitable for operation close to high power components.
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

ZXHF-K23+

50Ω 2010 to 10100 MHz

Generic photo used for illustration purposes only

CASE STYLE: UK3042

Connectors	Model
2.92mm-F	ZXHF-K23+

Features

- Match to 50Ω in the stop band, eliminates undesired reflections
- Cascadable
- Temperature stable, up to 105°C
- Protected by US Patent No. 8,392,495

Applications

- Military/Defense
- X Band Radars

Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Stop Band	Rejection	DC-F1	DC- 1210	11	14	-	dB
	Freq. Cut-Off	F2	1650	-	3.3	-	dB
	VSWR	DC-F1	DC- 1210	-	1.2	-	:1
Pass Band	Insertion Loss	F3-F5	2010 - 10100	-	1.5	2.8	dB
	VSWR	F3-F4	2010 - 3200	-	1.6	-	:1
		F4-F5	3200 - 10100	-	2.0	-	:1

Absolute Maximum Ratings[3]

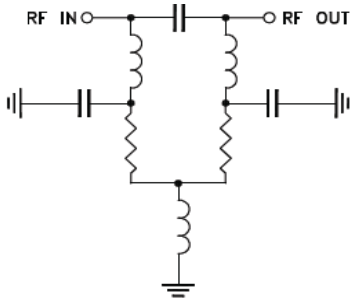
Parameter	Ratings
Operating Temperature	-55°C to + 105°C
Storage Temperature	-55°C to + 105°C
RF Power Input, Passband (F3-F5)[1]	2W at 25°C
RF Power Input, Stopband (DC-F3)[2]	0.5W at 25°C

[1] Passband rating derates linearly to 1W at 105°C ambient
[2] Stopband rating derates linearly to 0.25W at 105°C ambient
[3] Permanent damage may occur if any of these limits are exceeded

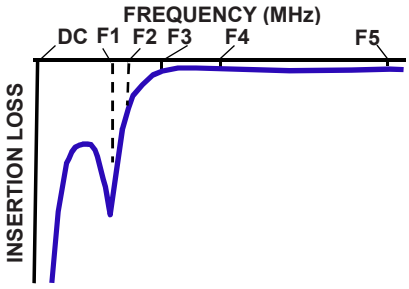
ESD rating

Human body model (HBM): Class 2(2000 to <4000 V) in accordance with ANSI/ESD 5.1-2001

Functional Schematic



Typical Frequency Response

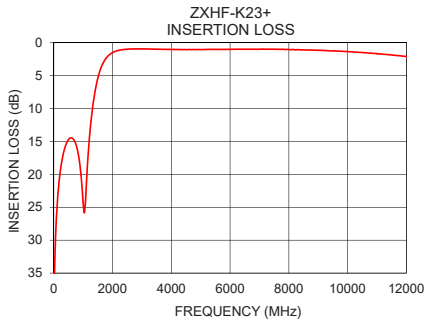


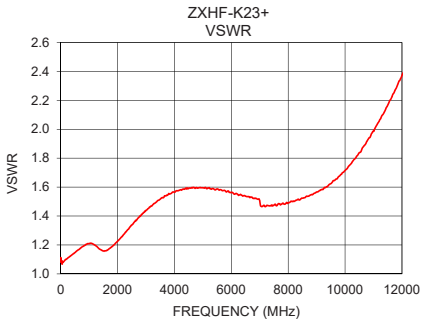
+RoHS Compliant

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

Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
1	38.13	1.09
100	25.63	1.08
500	14.72	1.15
1000	24.41	1.21
1100	22.24	1.21
1200	15.09	1.20
1210	14.55	1.20
1500	5.34	1.16
1600	3.87	1.16
1650	3.34	1.17
2000	1.49	1.23
2010	1.46	1.23
2500	0.98	1.34
3200	0.94	1.47
5000	1.04	1.60
8000	1.02	1.49
9000	1.14	1.57
10000	1.33	1.71
10100	1.38	1.74
12000	2.09	2.37





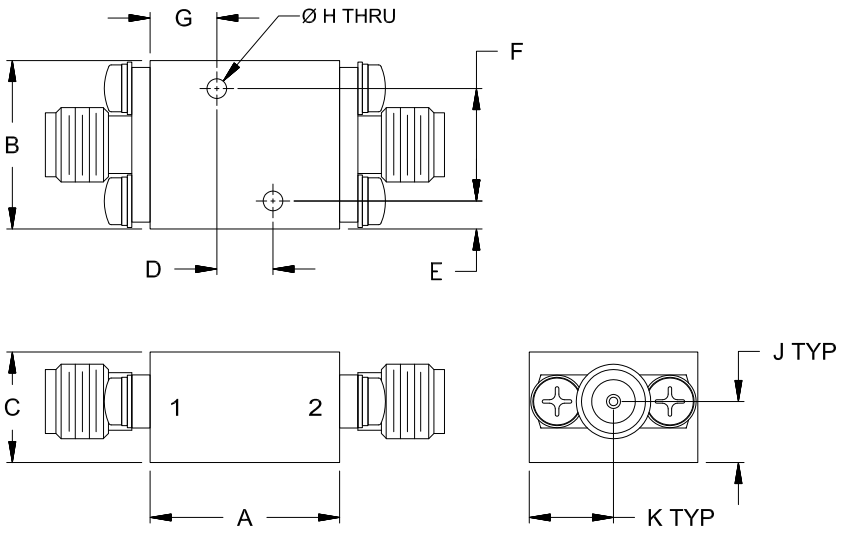
Notes

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-Circuit's 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/MCLStore/terms.jsp

Coaxial Connections

PORT - 1	2.92mm-Female
PORT - 2	2.92mm-Female

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F
.68	**.60**	**.39**	**.200**	**.10**	**.400**
17.1	15.2	10.0	5.08	2.5	10.16

G	H	J	K		Wt.
.24	**.070**	**.22**	**.30**		grams
6.0	1.78	5.5	7.6		**24**

Note: Please refer to case style drawing for details