

# Coaxial Reflectionless High Pass Filter

## VXHF-482M+

50Ω      4800 to 9000 MHz

### The Big Deal

- Match to 50Ω in the stop band, eliminates undesired reflections
- Cascadable
- Temperature stable up to 100°C



Generic photo used for illustration purposes only  
CASE STYLE: FF704

### Product Overview

Mini-Circuits' VXHF-482M+ reflectionless filter employs a novel filter topology which absorbs and terminates stop band signals internally rather than reflecting them back to the source. This new capability enables unique applications for filter circuits beyond those suited to traditional approaches. Reflectionless filters eliminate stop band reflections, allowing them to be paired with sensitive devices and used in applications that otherwise require circuits such as isolation amplifiers or attenuators.

### 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.
Enables stable integration of wideband amplifiers	Because reflectionless filters maintain good impedance in the stop band; they can be integrated with high gain, wideband amplifiers without the risk of creating instabilities in these out of band regions.
Operating temperature up to 100°C	Suitable for operation close to high power components.
Connectorized package	The connectorized package is easy to interface with other devices and well suited for test setups.

#### 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](http://www.minicircuits.com/MCLStore/terms.jsp)



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Connectors	Model
SMA-M/F	VXHF-482M+

### Features

- Match to 50Ω in the stop band, eliminates undesired reflections
- Cascadable
- Temperature stable up to 100°C
- Protected by US Patents 8,392,495; 9,705,467, additional patent pending
- Protected by China Patent 201080014266.1
- Protected by Taiwan Patent I581494

### 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-F1	DC - 2400	16	37	-	dB
		F1-F2	2400 - 3600	14	36	-	dB
	Freq. Cut-Off	F3	4390	-	3.0	-	dB
	VSWR	DC-F1	DC - 2400	-	1.3	-	:1
		F1-F2	2400 - 3600	-	1.3	-	:1
Pass Band	Insertion Loss	F4-F6	4800 - 9000	-	1.5	3.0	dB
	VSWR	F4-F5	4800 - 6000	-	2.0	-	:1
		F5-F6	6000 - 9000	-	3.0	-	:1

### Absolute Maximum Ratings<sup>3</sup>

Parameter	Ratings
Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
RF Power Input, Passband (F4-F6) <sup>1</sup>	1.3W at 25°C
RF Power Input, Stopband (DC-F4) <sup>2</sup>	1.6W at 25°C

<sup>1</sup> Passband rating derates linearly to 0.6W at 100°C ambient

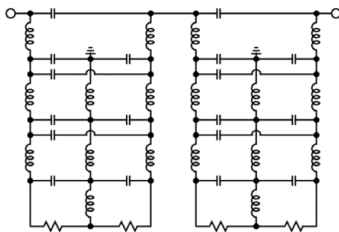
<sup>2</sup> Stopband rating derates linearly to 0.8W at 100°C ambient

<sup>3</sup> Permanent damage may occur if any of these limits are exceeded

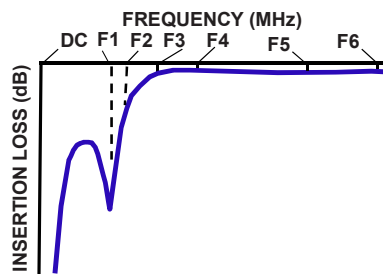
### ESD rating

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

### Functional Schematic

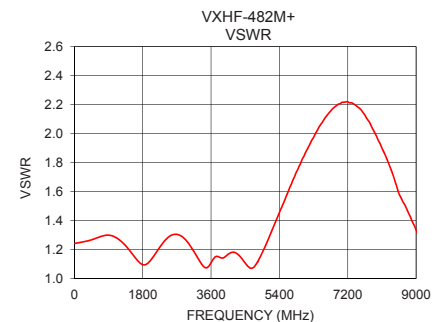
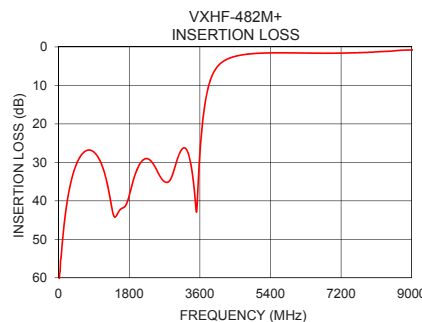


### Typical Frequency Response



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
10	60.75	1.24
100	50.25	1.25
300	35.74	1.26
450	30.56	1.27
1000	28.54	1.29
2400	30.21	1.27
2500	31.98	1.29
3000	30.01	1.25
3600	27.73	1.11
4000	5.76	1.16
4335	3.00	1.16
4390	2.78	1.14
4800	1.90	1.10
4900	1.79	1.15
5000	1.70	1.21
6000	1.55	1.82
7000	1.62	2.21
8000	1.36	1.96
8500	1.08	1.62
9000	0.78	1.34



**+RoHS Compliant**

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

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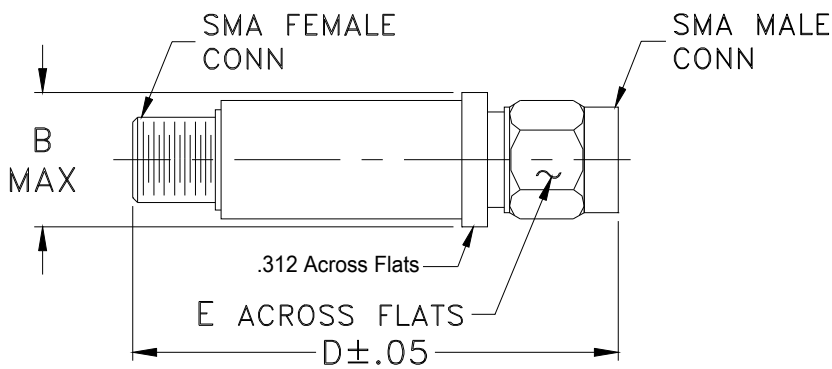
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## Coaxial Connections

PORT - 1	SMA-Male
PORT - 2	SMA-Female

## Outline Drawing



## Outline Dimensions ( $\frac{\text{inch}}{\text{mm}}$ )

B	D	E	wt.
.410	1.43	.312	grams
10.41	36.32	7.92	10

Note: Please refer to case style drawing for details

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