



COAXIAL

# High Pass Filter

## VHF-8400+

Mini-Circuits

50Ω 9000 to 13000 MHz

### THE BIG DEAL

- Rugged unibody construction, small size
- 5 sections
- Temperature stable
- Excellent power handling, 7W
- DC block in/out, breakdown voltage, 1kV typ
- Low cost



Generic photo used for illustration purposes only

Model No.	VHF-8400+
Case Style	FF704
Connectors	SMA

### APPLICATIONS

- Sub-harmonic rejection and DC blocking
- Transmitters/Receivers
- Lab use
- Instrumentation
- Test equipment

#### +RoHS Compliant

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

### PRODUCT OVERVIEW

VHF-8400+ is a 50Ω high pass filter built in rugged unibody construction. Covering a passband of 9000 to 13000 MHz, this model offers good matching within the passband and good rejection in the stopband. It can handle a high power of 7W with a wide operating temperature range from -55°C to 100°C.

### KEY FEATURES

Feature	Advantages
7W power handling	Supports a wide range of system power requirements.
Low insertion loss	Low insertion loss results in better SNR in receiver front end and better power delivery to antenna in transmitters.
Connectorized package	The connectorized package is easy to interface with other devices and well suited for test and measurement applications.

REV. E  
ECO-015747  
VHF-8400+  
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### ELECTRICAL SPECIFICATIONS AT 25°C

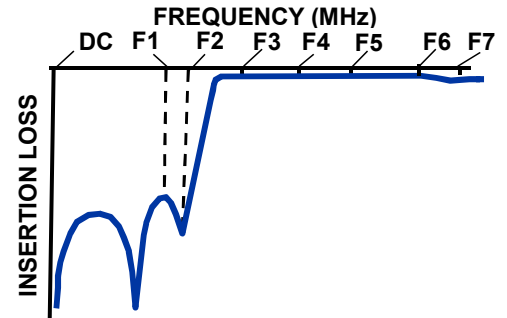
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Freq. cut-off	Insertion Loss	Nom. F3	8400	—	3	—	dB
Stop Band	Insertion Loss	DC-F1	DC - 5700	—	30	—	dB
		DC-F2	DC - 6000	20	—	—	dB
Passband	Insertion Loss	F4-F5	9000 - 9500	—	—	3	dB
		F5-F6	9500 - 12500	—	—	2.5	dB
		F6-F7	12500 - 13000	—	—	3.5	dB
	Return Loss	F3-F7	9000 - 13000	—	14	—	dB
No. of Sections	5						

### MAXIMUM RATINGS

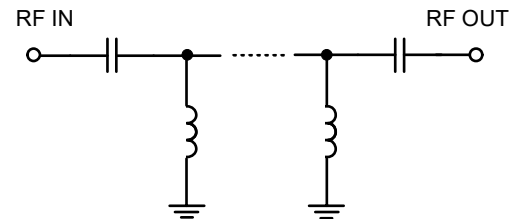
Parameter	Ratings
Operating temperature	-55°C to +100°C
Storage temperature	-55°C to +100°C
RF Power Input*	7W max. at 25°C

\*Passband rating, derate linearly to 3W at 100°C ambient  
 Permanent damage may occur if any of these limits are exceeded.

### TYPICAL FREQUENCY RESPONSE



### FUNCTIONAL SCHEMATIC





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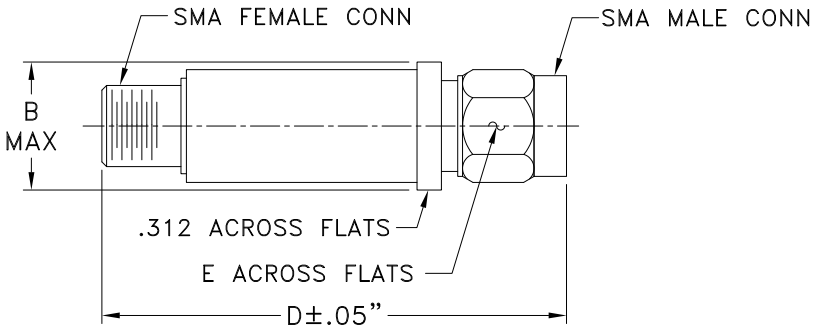
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## COAXIAL CONNECTIONS

PORT 1	SMA-Male
PORT 2	SMA-Female

## OUTLINE DRAWING



## OUTLINE DIMENSIONS (Inches/mm)

B	D	E	wt
.410	1.43	.312	grams
10.41	36.32	7.92	10.0

Note. Please refer to case style drawing for details





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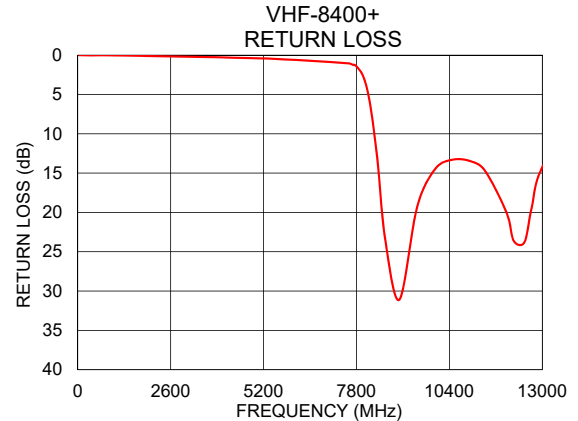
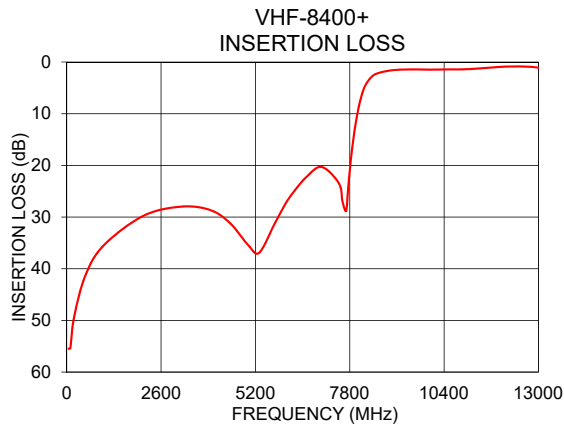
# High Pass Filter

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### TYPICAL PERFORMANCE DATA AT 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
50	55.48	0.01
500	41.57	0.02
4500	31.17	0.35
5700	31.70	0.52
6000	27.78	0.59
7500	23.46	1.02
8020	9.65	3.09
8400	2.88	13.93
8600	2.11	23.31
9000	1.57	31.10
9500	1.43	19.26
10000	1.47	14.49
12000	0.92	20.02
12500	0.86	23.80
13000	1.10	14.24



#### 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)

