

Coaxial

# Low Pass Filter

VLF-45+

50Ω

DC to 45 MHz

## The Big Deal

- Low Insertion Loss (1.2 dB typical)
- Good close-in rejection
- Versatile small size, coaxial, 1.43" length



CASE STYLE: FF704

## Product Overview

The VLF-45+ Low Pass Filter is constructed using internal LTCC Low Pass Filter structure to achieve repeatable performance. The Pass Band frequency range DC-45 MHz is ideal for rejecting down converted harmonics of base band signals. Built using Mini-Circuits proven unibody construction which integrates the RF connectors with the case body, the VLF-45+ takes very little space and meets rugged field and test lab and system environment.

## Key Features

Feature	Advantages
High Rejection	Achieving 50dB rejection at 180 MHz; The VLF-45 is ideal for test setups.
Compact Versatile Case (1.43"x0.41")	Enables use in a variety of applications including space constrained connectorized systems. Connectors: SMA Female (1), SMA Male (1)
Rugged Unibody Construction	Mini-Circuits Unibody construction allows survivability in critical applications including militarized or industrial systems.

### 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)



# Coaxial Low Pass Filter

## VLF-45+

50Ω \*DC to 45 MHz



Generic photo used for illustration purposes only

CASE STYLE: FF704

Connectors	Model
SMA	VLF-45+

**+RoHS Compliant**

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

### Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	8.5W max. at 25°C

\* Passband rating, derate linearly to 3.5W at 100°C ambient. Permanent damage may occur if any of these limits are exceeded.

### Features

- rugged uni-body construction, small size
- 7 sections
- excellent power handling, 8.5W
- temperature stable
- low cost
- protected by U.S. Patent 6,943,646

### Applications

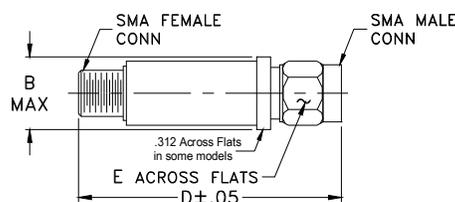
- harmonic rejection
- transmitters/receivers
- lab use

### Electrical Specifications at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	*DC-45	—	1.0	1.2	dB
	Freq. Cut-Off	F2	77	—	3.0	—	dB
	VSWR	DC-F1	*DC-45	—	1.2	1.3	:1
Stop Band	Rejection Loss	F3	120	20	27	—	dB
		F4-F5	150-910	—	33	—	dB
	VSWR	F6	1000	—	20	—	dB
		F3-F6	120-1000	—	18	—	:1

\* Not for use with DC voltage at input and output ports

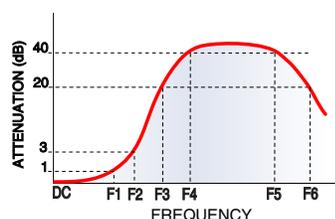
### Outline Drawing



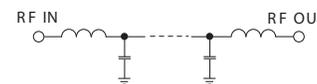
### Outline Dimensions (inch/mm)

B	D	E	gra
.410	1.43	.312	1
10.41	36.32	7.92	1

### Typical Frequency Response

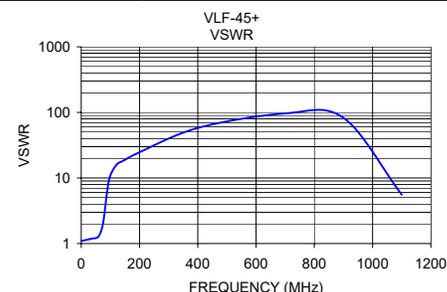
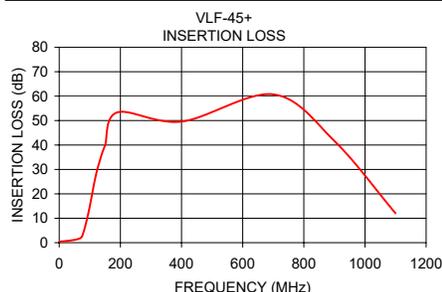


### Electrical Schematic



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
0.30	0.42	1.09
29.00	0.74	1.17
37.00	0.89	1.19
40.00	0.95	1.19
60.00	1.43	1.29
75.00	2.66	2.03
95.00	11.96	9.18
120.00	27.64	15.67
140.00	36.43	17.93
150.00	39.88	18.90
190.00	53.36	23.49
400.00	49.60	57.91
700.00	60.72	96.51
900.00	41.65	82.73
1100.00	12.04	5.54



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

