

Coaxial

# Bandpass Filter

VBF-1945+

50Ω 1850 to 2040 MHz

## The Big Deal

- Low Insertion Loss (2.0 dB typical)
- Good close-in rejection
- Versatile small size, coaxial, 1.43" length



CASE STYLE: FF704

## Product Overview

The VBF-1945+ Band Pass Filter is constructed using internal LTCC Band Pass Filter structure to achieve repeatable performance. Covering 1945 MHz  $\pm$  95 MHz, these units offer low insertion loss and good rejection at the band reject edges. Built using Mini-Circuits proven unibody construction which integrates the RF connectors with the case body, the VBF-1945+ takes very little space and meets rugged test lab system environment.

## Key Features

Feature	Advantages
Good Rejection close to pass band	Provides good rejection of signals close to the pass band, for improved system performance.
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.  
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## VBF-1945+

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### Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	1.5W max. at 25°C

\*Passband rating, derate linearly to 0.25W at 100°C ambient  
Permanent damage may occur if any of these limits are exceeded.

### Features

- Small size
- Temperature stable
- Rugged unibody construction

CASE STYLE: FF704

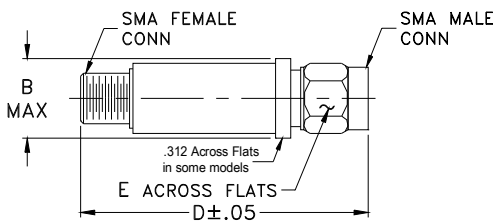
Connectors	Model
SMA	VBF-1945+

### Applications

- Harmonic Rejection
- Transmitters / Receivers

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

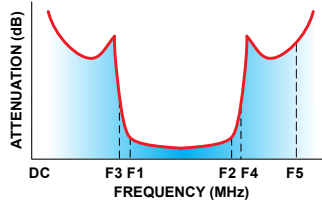
### Outline Drawing



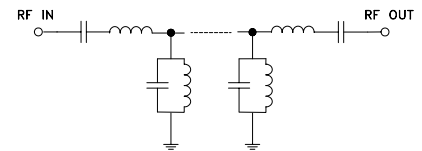
### Electrical Specifications at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	1945	—	MHz
	Insertion Loss	F1-F2	1850-2040	—	3.0	dB
	VSWR	F1-F2	1850-2040	—	2.5	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-1500	—	20	dB
	VSWR	DC-F3	DC-1500	—	25	:1
Stop Band, Upper	Insertion Loss	F4-F5	3600-5700	—	25	dB
	VSWR	F4-F5	3600-5700	—	20	:1

### Typical Frequency Response



### Functional Schematic

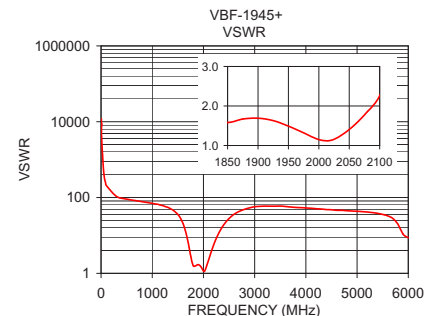
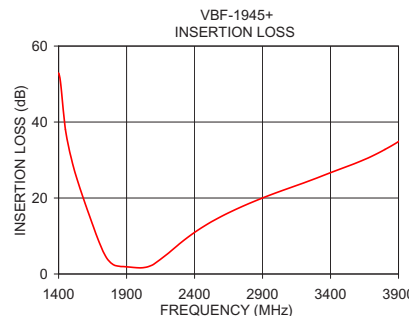
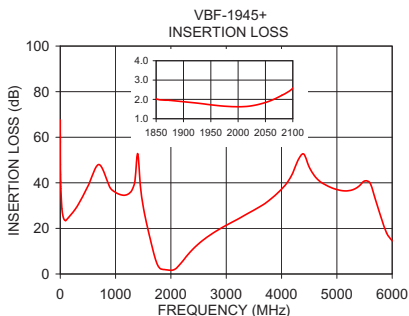


### Outline Dimensions (inch/mm)

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

### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
0.30	67.55	3349.77
300.00	29.47	107.34
1000.00	35.80	69.99
1400.00	52.82	46.90
1550.00	23.37	28.71
1800.00	2.50	1.58
1850.00	2.02	1.58
1900.00	1.88	1.69
2040.00	1.76	1.29
2200.00	5.25	5.68
2500.00	13.24	27.99
2900.00	20.02	53.43
4500.00	46.92	47.55
4900.00	37.86	44.11
5700.00	32.47	27.83



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