

# Coaxial Bandpass Filter

## VBF-7331+

50Ω 6850 to 7850 MHz

### The Big Deal

- Good rejection
- Good VSWR
- Connectorized package



CASE STYLE: FF704

### Product Overview

The VBF-7331+ Band Pass Filter is constructed using internal LTCC Band Pass Filter structure to achieve repeatable performance. This offers 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-7331+ 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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50Ω 6850 to 7850 MHz



CASE STYLE: FF704

Connectors Model  
SMA VBF-7331+

### Features

- Small size
- Temperature stable
- Rugged unibody construction

### Applications

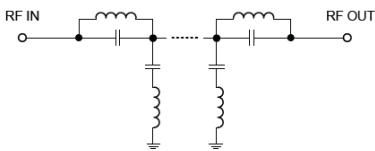
- Harmonic rejection
- Transmitters / Receivers
- UWB impulse radar
- Emission masking

### Electrical Specifications<sup>(1)</sup> at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	F1	7331	-	-	2	dB
	Insertion Loss	F2-F3	6850 - 7850	-	1.4	-	dB
	VSWR	F2-F3	6850 - 7850	-	1.45	-	:1
Stop Band, Lower	Insertion Loss	DC-F4	10-5600	10	23	-	dB
	Insertion Loss	F4-F5	5600-5800	-	10	-	dB
	VSWR	DC-F5	10-5800	-	20	-	:1
Stop Band, Upper	Insertion Loss	F6-F7	9300 - 10500	10	20	-	dB
	Insertion Loss	F7-F8	10500-13300	-	10	-	dB
	VSWR	F6-F8	9300-13300	-	20	-	:1

(1) In Application where DC voltage is present at either input or output ports, coupling capacitors are required.

### Functional Schematic



### Maximum Ratings

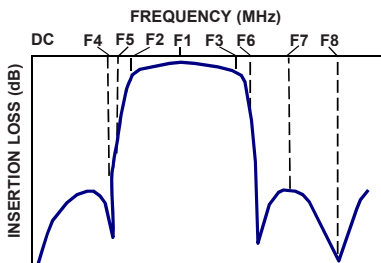
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input	2.5 W max.

\*Passband rating, derate linearly to 0.7 W at 100°C ambient  
Permanent damage may occur if any of these limits are exceeded.

### Typical Performance Data at 25°C

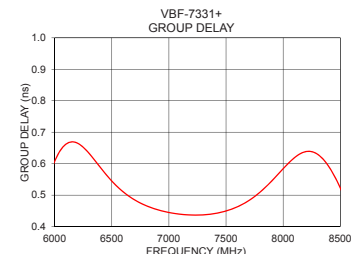
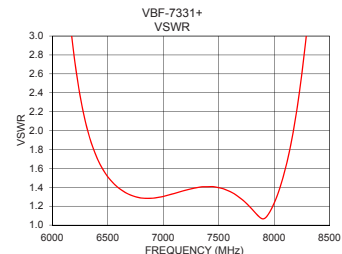
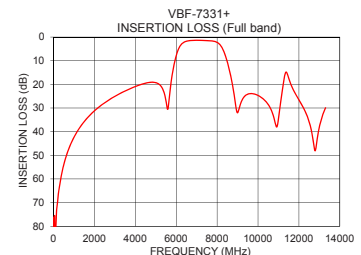
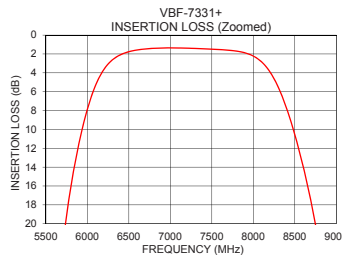
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (ns)
10	76.27	7226.80	6850	0.46
200	69.65	262.08	6900	0.45
900	44.13	118.17	6950	0.45
2150	30.09	84.25	7000	0.44
3000	25.06	77.66	7050	0.44
3700	22.00	67.17	7100	0.44
4250	20.12	55.05	7150	0.44
5600	30.34	20.53	7200	0.44
5800	16.15	12.98	7250	0.44
6250	3.07	2.37	7331	0.44
6850	1.38	1.28	7350	0.44
7331	1.43	1.40	7400	0.44
7850	1.78	1.10	7450	0.44
8600	13.90	8.34	7500	0.45
9300	25.50	18.83	7550	0.46
10000	24.67	23.10	7600	0.46
10500	28.52	24.93	7650	0.47
11400	14.97	12.91	7700	0.48
12100	28.03	25.93	7750	0.50
13300	29.93	23.48	7850	0.53

### Typical Frequency Response



### +RoHS Compliant

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



### Notes

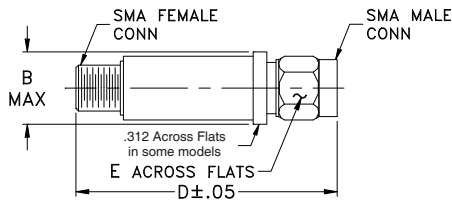
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## Coaxial Connections

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

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