

Coaxial

# Bandpass Filter

VBF-8000+

50Ω

7900 to 8100 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-8000+ Band Pass Filter is constructed using internal LTCC Band Pass Filter structure to achieve repeatable performance. Covering 8000 MHz  $\pm$  100 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-8000+ 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.        |



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 *The Design Engineers Search Engine*  Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

**Notes:** 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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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## VBF-8000+

50Ω 7900 to 8100 MHz



CASE STYLE: FF704

### Maximum Ratings

|                       |                 |
|-----------------------|-----------------|
| Operating Temperature | -55°C to 100°C  |
| Storage Temperature   | -55°C to 100°C  |
| RF Power Input*       | 2W max. at 25°C |

\*Passband rating, derate linearly to 0.5W at 100°C ambient  
Permanent damage may occur if any of these limits are exceeded.

### Features

- Small size
- Temperature stable
- Rugged unibody construction

### Applications

- Harmonic Rejection
- Transmitters / Receivers

| Connectors | Model     | Price       | Qty.  |
|------------|-----------|-------------|-------|
| SMA        | VBF-8000+ | \$34.95 ea. | (1-9) |

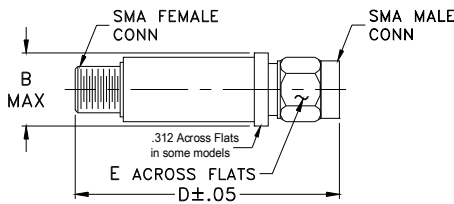
**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

### Electrical Specifications at 25°C

| Parameter        | F#               | Frequency (MHz) | Min.        | Typ. | Max. | Unit |    |
|------------------|------------------|-----------------|-------------|------|------|------|----|
| Pass Band        | Center Frequency | —               | —           | 8000 | —    | MHz  |    |
|                  | Insertion Loss   | F1-F2           | 7900-8100   | —    | 2.0  | 3.5  | dB |
|                  | VSWR             | F1-F2           | 7900-8100   | —    | 1.6  | —    | :1 |
| Stop Band, Lower | Insertion Loss   | DC-F3           | DC-6800     | —    | 20   | —    | dB |
|                  | VSWR             | DC-F3           | DC-6800     | —    | 30   | —    | :1 |
| Stop Band, Upper | Insertion Loss   | F4-F5           | 10300-14300 | —    | 20   | —    | dB |
|                  | VSWR             | F4-F5           | 10300-14300 | —    | 30   | —    | :1 |

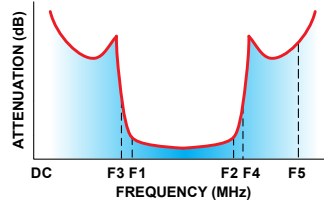
### Outline Drawing



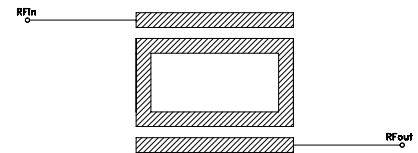
### Outline Dimensions (inch/mm)

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

### Typical Frequency Response

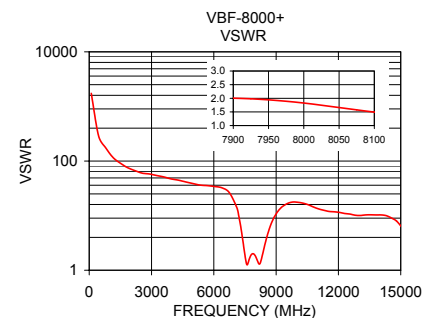
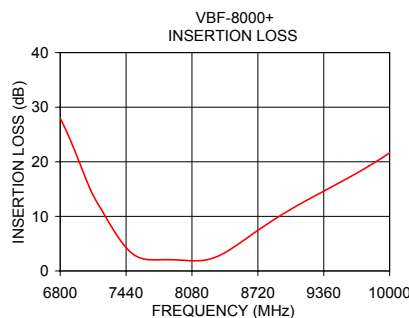
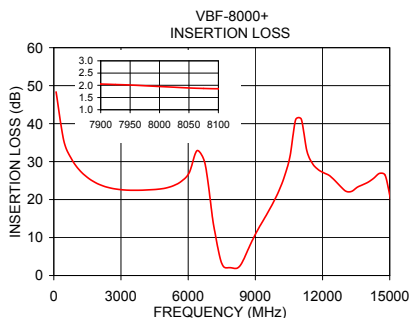


### Functional Schematic



### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 100.00          | 48.36               | 1737.18   |
| 800.00          | 30.61               | 173.72    |
| 2200.00         | 23.60               | 66.82     |
| 3600.00         | 22.46               | 51.10     |
| 5000.00         | 23.04               | 38.61     |
| 6050.00         | 27.11               | 34.07     |
| 7200.00         | 11.25               | 9.96      |
| 7600.00         | 2.24                | 1.26      |
| 7900.00         | 2.05                | 2.00      |
| 8100.00         | 1.86                | 1.49      |
| 8700.00         | 7.18                | 6.15      |
| 9300.00         | 14.01               | 14.62     |
| 9800.00         | 19.23               | 17.75     |
| 11300.00        | 32.83               | 12.52     |
| 15050.00        | 19.69               | 6.17      |



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