

Coaxial

# Bandpass Filter

VBF-2275+

50Ω 2170 to 2380 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-2275+ Band Pass Filter is constructed using internal LTCC Band Pass Filter structure to achieve repeatable performance. Covering 2275 MHz  $\pm$  105 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-2275+ 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.        |



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

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50Ω 2170 to 2380 MHz

## 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

## Applications

- Harmonic Rejection
- Transmitters / Receivers

# VBF-2275+



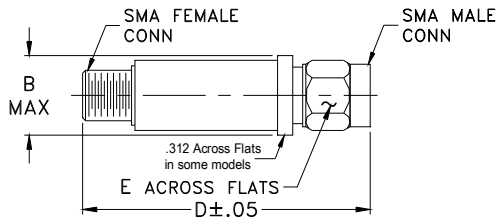
CASE STYLE: FF704

| Connectors | Model     | Price       | Qty.  |
|------------|-----------|-------------|-------|
| SMA        | VBF-2275+ | \$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.

## Outline Drawing



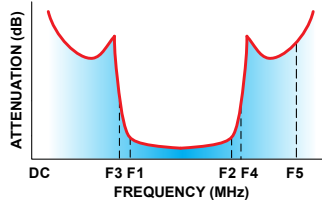
## Outline Dimensions (inch/mm)

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

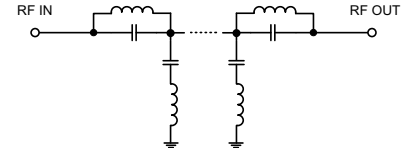
## Electrical Specifications at 25°C

| Parameter        | F#               | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|------------------|------------------|-----------------|------|------|------|------|
| Pass Band        | Center Frequency | —               | —    | 2275 | —    | MHz  |
|                  | Insertion Loss   | F1-F2           | —    | —    | 3.0  | dB   |
|                  | VSWR             | F1-F2           | —    | —    | 2.5  | :1   |
| Stop Band, Lower | Insertion Loss   | DC-F3           | —    | 20   | —    | dB   |
|                  | VSWR             | DC-F3           | —    | 25   | —    | :1   |
| Stop Band, Upper | Insertion Loss   | F4-F5           | —    | 25   | —    | dB   |
|                  | VSWR             | F4-F5           | —    | 20   | —    | :1   |

## Typical Frequency Response

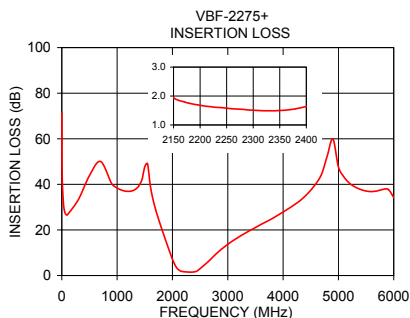
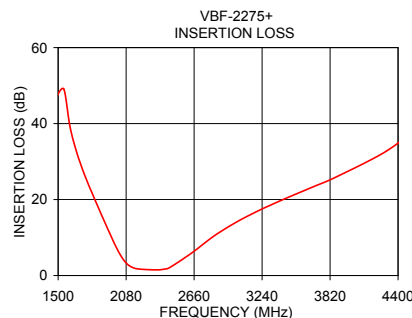
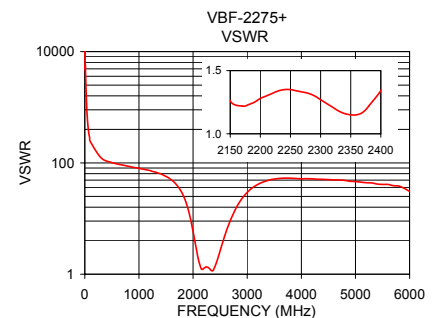


## Functional Schematic



## Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 0.30            | 71.30               | 14895.30  |
| 300.00          | 33.32               | 123.47    |
| 1100.00         | 37.31               | 76.49     |
| 1500.00         | 47.76               | 56.97     |
| 1800.00         | 20.92               | 28.33     |
| 2000.00         | 7.18                | 5.88      |
| 2170.00         | 1.80                | 1.22      |
| 2300.00         | 1.51                | 1.27      |
| 2380.00         | 1.56                | 1.22      |
| 2450.00         | 2.06                | 1.84      |
| 3020.00         | 14.05               | 30.84     |
| 3500.00         | 21.07               | 51.13     |
| 4000.00         | 27.86               | 51.75     |
| 5000.00         | 47.67               | 46.21     |
| 6000.00         | 34.26               | 30.71     |



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