

# Bandpass Filter

50Ω 800 to 1050 MHz

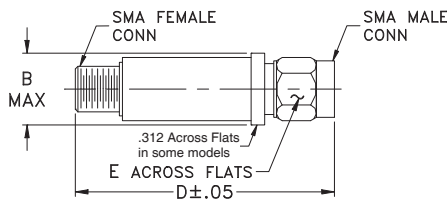
## Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature   | -55°C to 100°C |
| RF Power Input*       | 7W at 25°C     |

\*Passband rating, derate linearly to 3W at 100°C ambient.

Permanent damage may occur if any of these limits are exceeded.

## Outline Drawing



## Outline Dimensions (inch mm)

| B     | D     | E    | wt.   |
|-------|-------|------|-------|
| .410  | 1.91  | .312 | grams |
| 10.41 | 48.51 | 7.92 | 11.8  |

Note: Please refer to case style drawing for details

## Features

- Good Rejection, 30dB up to 18GHz
- Low insertion loss
- Excellent power handling, 7W
- Temperature stable LTCC internal structure
- Rugged stainless steel unibody
- Protected by US Patent 6,943,646

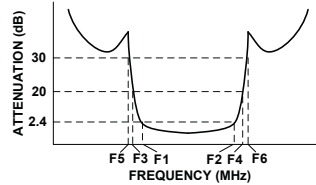
## Application

- Harmonic rejection
- Transmitters/receivers
- Lab use
- Test instrumentation

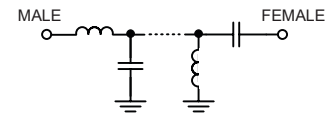
## Bandpass Filter Electrical Specifications (T<sub>AMB</sub> = 25°C)

| CENTER<br>FREQ.<br>(MHz)<br>Fc | PASSBAND<br>(MHz)<br>(Loss < 2.4dB)<br>F1 - F2 | STOPBANDS (MHz) |      |                 |              | VSWR (:1) |      |          |
|--------------------------------|------------------------------------------------|-----------------|------|-----------------|--------------|-----------|------|----------|
|                                |                                                | (Loss > 20dB)   |      | (Loss 30dB Typ) |              | Passband  |      | Stopband |
|                                |                                                | F3              | F4   | F5              | F6           | Typ.      | Max. | Typ.     |
| 925                            | 800 - 1050                                     | 530             | 1550 | 500             | 1620 - 18000 | 1.6       | 2.3  | 20       |

## Typical Frequency Response

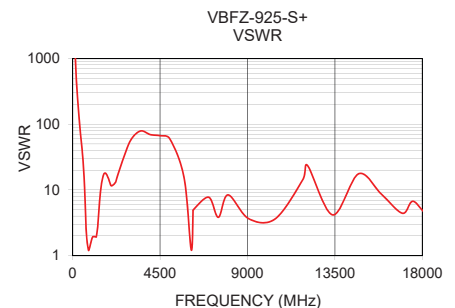
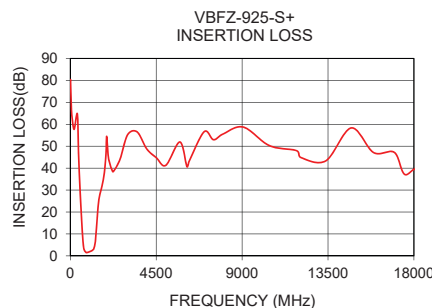


## Functional Schematic



## Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 10              | 82.20               | 5351.75   |
| 80              | 64.21               | 1835.80   |
| 250             | 57.35               | 237.24    |
| 500             | 31.16               | 37.91     |
| 530             | 25.79               | 29.70     |
| 595             | 15.40               | 15.05     |
| 643             | 8.76                | 7.03      |
| 670             | 5.89                | 4.29      |
| 702             | 3.60                | 2.48      |
| 800             | 1.68                | 1.22      |
| 925             | 1.64                | 1.51      |
| 1050            | 2.16                | 1.95      |
| 1275            | 5.42                | 2.40      |
| 1350            | 11.88               | 4.65      |
| 1435            | 21.92               | 9.23      |
| 1550            | 28.36               | 15.45     |
| 1620            | 30.79               | 17.53     |
| 3000            | 54.45               | 58.52     |
| 8000            | 54.31               | 8.38      |
| 18000           | 34.91               | 1.68      |



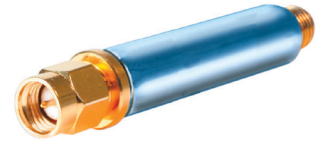
### Notes

- 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)



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# VBFZ-925-S+



Generic photo used for illustration purposes only

CASE STYLE: FF1145

| Connectors | Model       |
|------------|-------------|
| SMA        | VBFZ-925-S+ |

**+RoHS Compliant**

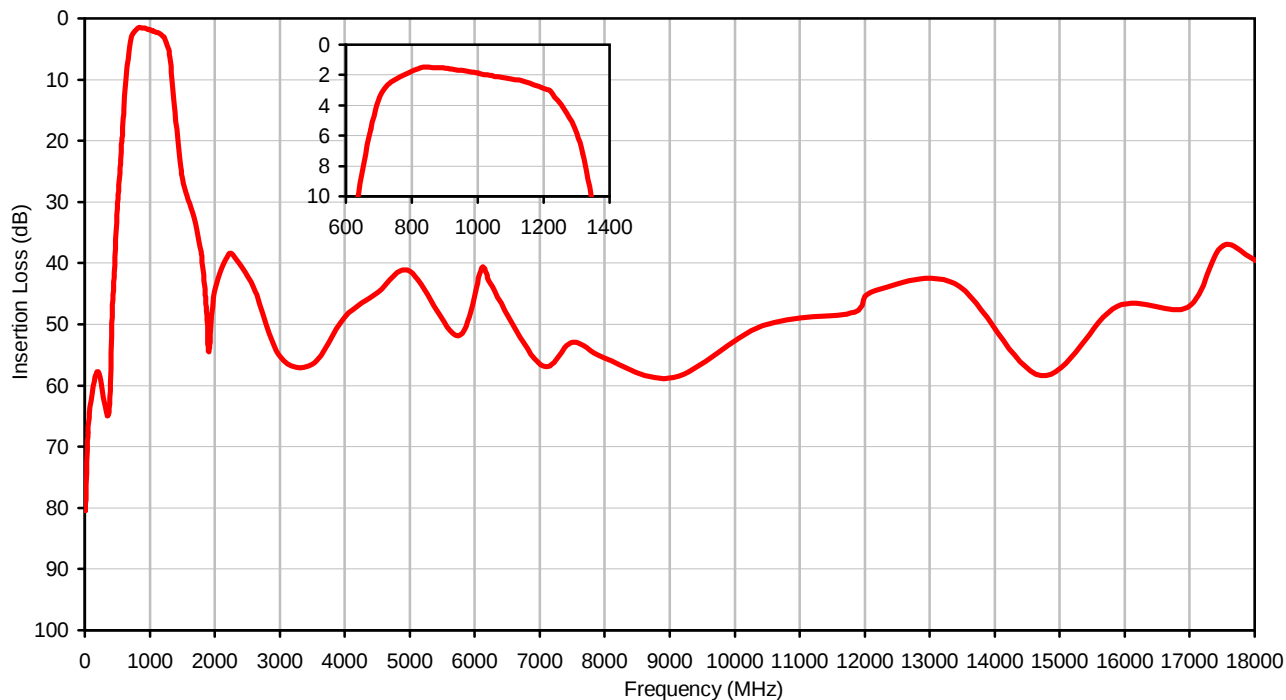
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

## Typical Performance Data

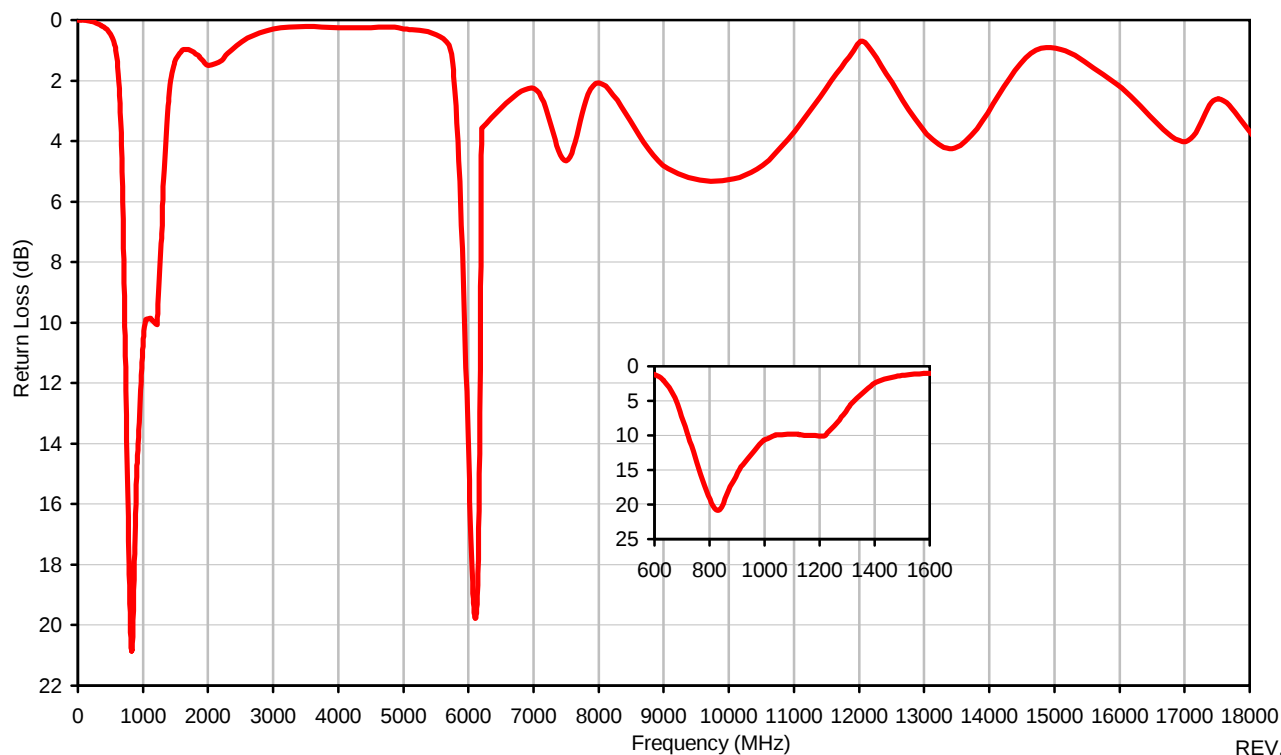
| FREQUENCY<br>(MHz) | INSERTION<br>LOSS<br>(dB) | RETURN<br>LOSS<br>(dB) |
|--------------------|---------------------------|------------------------|
| 10                 | 82.20                     | 0.00                   |
| 80                 | 64.21                     | 0.01                   |
| 250                | 57.35                     | 0.07                   |
| 500                | 31.16                     | 0.46                   |
| 530                | 25.79                     | 0.59                   |
| 595                | 15.40                     | 1.16                   |
| 643                | 8.76                      | 2.49                   |
| 670                | 5.89                      | 4.12                   |
| 702                | 3.60                      | 7.42                   |
| 800                | 1.68                      | 20.11                  |
| 925                | 1.64                      | 13.87                  |
| 1050               | 2.16                      | 9.87                   |
| 1275               | 5.42                      | 7.70                   |
| 1350               | 11.88                     | 3.80                   |
| 1435               | 21.92                     | 1.89                   |
| 1550               | 28.36                     | 1.13                   |
| 1620               | 30.79                     | 0.99                   |
| 3000               | 54.45                     | 0.30                   |
| 8000               | 54.31                     | 2.08                   |
| 18000              | 34.91                     | 11.88                  |

## Typical Performance Curves

Insertion Loss



Return Loss



REV. OR

VBFZ-925-S+

200808

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IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED RoHS compliant

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### Outline Dimensions



| CASE #. | A  | B               | C  | D               | E              | WT GRAMS |
|---------|----|-----------------|----|-----------------|----------------|----------|
| FF1145  | -- | .410<br>(10.41) | -- | 1.91<br>(48.51) | .312<br>(7.92) | 11.8     |

Dimensions are in inches (mm). Tolerances: 2Pl. ± .04; 3Pl. ± .030

#### Notes:

1. Case material: Stainless steel.
2. Case finish: Gold plated.
3. Round Flange may have .312 Across Flats in some models.



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RF/IF MICROWAVE COMPONENTS



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification              | Test/Inspection Condition                                                              | Reference/Spec                       |
|----------------------------|----------------------------------------------------------------------------------------|--------------------------------------|
| Operating Temperature      | -55° to 100°C<br>Ambient Environment                                                   | Individual Model Data Sheet          |
| Storage Temperature        | -55° to 100° C<br>Ambient Environment                                                  | Individual Model Data Sheet          |
| Barometric Pressure        | 100,000 Feet                                                                           | MIL-STD-202, Method 105, Condition D |
| Humidity                   | 90% RH, 65°C<br>Units may require bake-out after humidity to restore full performance. | MIL-STD-202, Method 103              |
| Thermal Shock              | -65° to 125°C, 5 cycles                                                                | MIL-STD-202, Method 107, Condition B |
| Vibration (High Frequency) | 20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)    | MIL-STD-202, Method 204, Condition D |
| Mechanical Shock           | 100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)                          | MIL-STD-202, Method 213, Condition I |