COAXIAL

# Bandpass Filter

# VBF-8450+

50Ω 8350 to 8550 MHz

## THE BIG DEAL

- Low Insertion Loss (1.6 dB typical)
- Good close-in rejection
- Versatile small size, coaxial, 1.43" length
- Temperature stable
- Rugged unibody construction



*Generic photo used for illustration purposes only*

| | |
|---|---|
| **Model No.** | VBF-8450+ |
| **Case Style** | FF704 |
| **Connectors** | SMA |

## APPLICATIONS

- Harmonic Rejection
- Transmitters / Receivers

***+RoHS Compliant***

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

## PRODUCT OVERVIEW

The VBF-8450+ Band Pass Filter is constructed using internal LTCC Band Pass Filter structure to achieve repeatable performance. Covering 8450 MHz ± 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-8450+ 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. |

REV. C
ECO-012550
VBF-8450+
URJ
220422

## ELECTRICAL SPECIFICATIONS AT 25°C

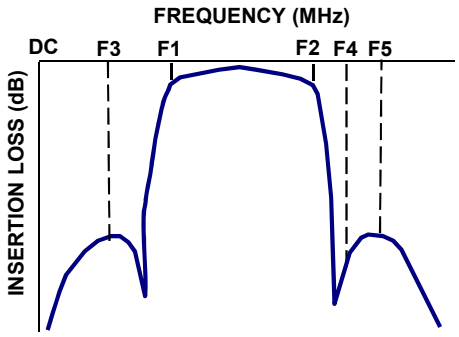
| Parameter | | F# | Frequency (MHz) | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|---|
| Passband | Center Frequency | — | — | — | 8450 | — | MHz |
| | Insertion Loss | F1-F2 | 8350 - 8550 | — | 1.6 | 3.5 | dB |
| | Return Loss | F1-F2 | 8350 - 8550 | — | 7.4 | — | dB |
| Stop Band, Lower | Insertion Loss | DC-F3 | DC - 7420 | — | 18 | — | dB |
| Stop Band, Upper | Insertion Loss | F4-F5 | 10000 - 15050 | — | 18 | — | dB |

## MAXIMUM RATINGS

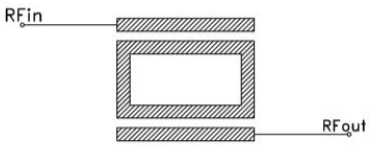
| Parameter | Ratings |
|---|---|
| Operating temperature | -55°C to +100°C |
| Storage temperature | -55°C to +100°C |
| RF Power Input* | 2W max. at 25°C |

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

## TYPICAL FREQUENCY RESPONSE




## FUNCTIONAL SCHEMATIC



# Bandpass Filter

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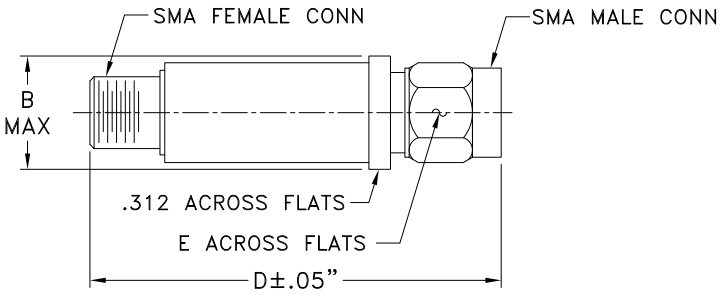
## COAXIAL CONNECTIONS

| | |
|---|---|
| **PORT 1** | SMA-Male |
| **PORT 2** | SMA-Female |

## OUTLINE DRAWING




## OUTLINE DIMENSIONS (Inches / mm)

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

Note. Please refer to case style drawing for details

# Bandpass Filter

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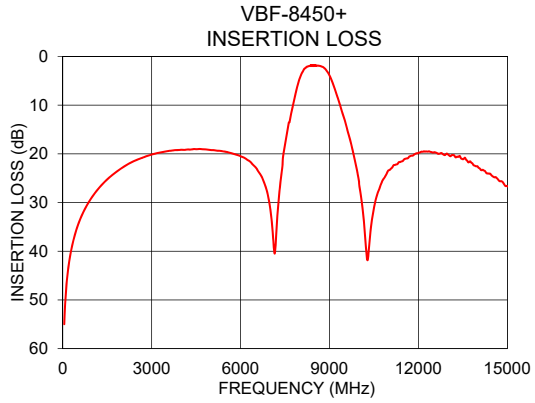
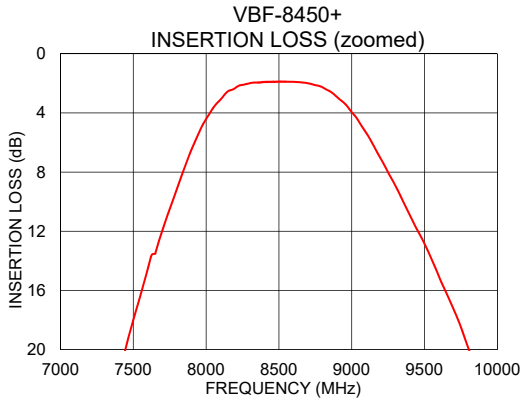
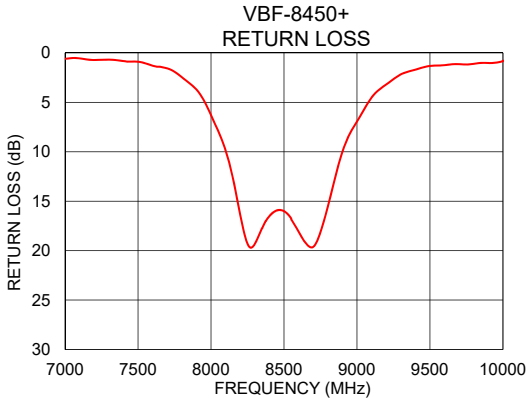
## TYPICAL PERFORMANCE DATA AT 25°C

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB) |
|---|---|---|
| 50 | 54.98 | 0.01 |
| 145 | 45.65 | 0.02 |
| 430 | 36.17 | 0.02 |
| 2995 | 20.15 | 0.36 |
| 7420 | 21.38 | 0.87 |
| 8350 | 1.95 | 17.75 |
| 8400 | 1.91 | 16.51 |
| 8450 | 1.90 | 15.93 |
| 8500 | 1.89 | 16.01 |
| 8550 | 1.89 | 16.85 |
| 9855 | 21.35 | 1.00 |
| 10000 | 26.31 | 0.80 |
| 10505 | 30.93 | 1.04 |
| 14545 | 24.78 | 0.75 |
| 15050 | 28.33 | 1.04 |




**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