CAVITY COAXIAL

# Bandpass Filter

# ZVBP-5G-S+

50Ω 4.7 to 5.3 GHz

## THE BIG DEAL

- Low Insertion Loss, 0.4 dB Typ.
- Good Return Loss, 20 dB Typ.
- Good Rejection
- Power Handling: 20 Watts
- Stopband Up to 11.5 GHz

*Generic photo used for illustration purposes only*

## FUNCTIONAL DIAGRAM


## APPLICATIONS

- Aerospace and Defense
  - ECM / Jamming
- Test & Measurement

## PRODUCT OVERVIEW

Mini-Circuits' ZVBP-5G-S+ is a coaxial cavity filter designed by implementing resonant structures with very high Q and are ideal for narrow-band, high-selectivity applications.

Mini-Circuits' coaxial cavity filters feature a special protective assembly to prevent accidental de-tuning that would otherwise require expensive replacement or return to factory for re-tuning. Precise machining allows realization of cavity filters with small form factors for applications where size is critical.

## KEY FEATURES

| Features | Advantages |
|---|---|
| Low Insertion Loss, 0.4 dB Typ. | Low signal loss results in better SNR in receiver front end and better power delivery to antenna in transmitter. |
| Fast roll-off (97%, 0.5dB/MHz @ 20dB point) | Higher selectivity results in better adjacent channel rejection and dynamic range. |
| High power handling, 20W | Well suited for transmitter application. |
| Protective assembly | Prevents accidental de-tuning of precisely tuned resonant circuit. |

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## ELECTRICAL SPECIFICATIONS AT +25°C

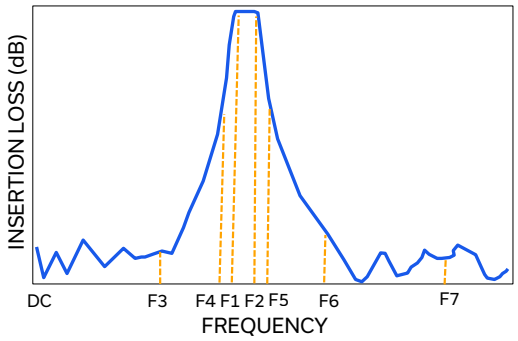
| Parameter | | F# | Frequency (MHz) | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|---|
| Passband | Center Frequency | — | — | — | 5000 | — | MHz |
| | Insertion Loss | F1-F2 | 4700 - 5300 | — | 0.4 | 0.7 | dB |
| | Return Loss | F1-F2 | 4700 - 5300 | 14 | 20 | — | dB |
| Stop Band, Lower | Rejection | DC-F3 | DC - 2500 | 75 | 86 | — | dB |
| | | F3-F4 | 2500 - 4500 | 14 | 17 | — | |
| Stop Band, Upper | Rejection | F5-F6 | 5500 - 7500 | 14 | 17 | — | dB |
| | | F6-F7 | 7500 - 11500 | 75 | 89 | — | |

## ABSOLUTE MAXIMUM RATINGS[1,2]

| Parameter | Ratings |
|---|---|
| Operating Temperature | -40 °C to +85 °C |
| Storage Temperature | -55 °C to +100 °C |
| Input Power | 20W max. at 25°C |

1. Permanent damage may occur if any of these limits are exceeded.
2. Input and output ports are DC short to ground.

## TYPICAL FREQUENCY RESPONSE



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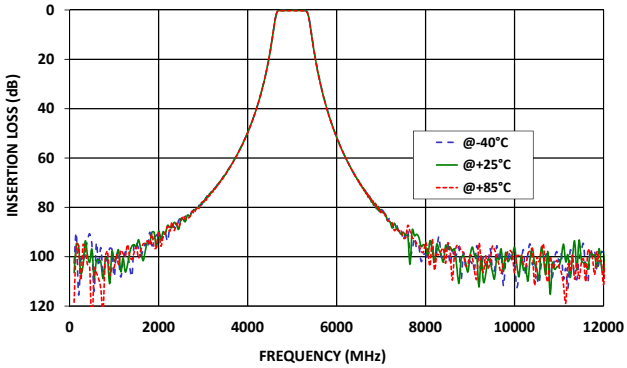
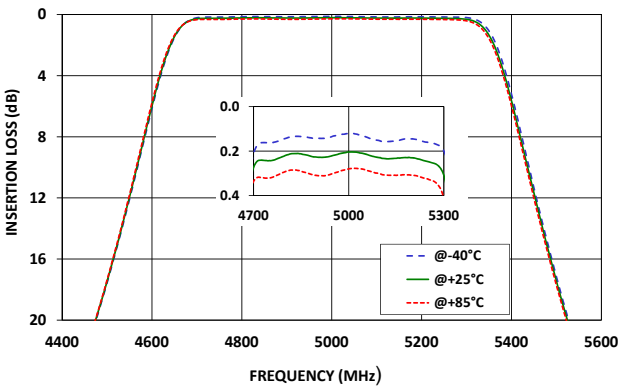
## TYPICAL PERFORMANCE GRAPHS

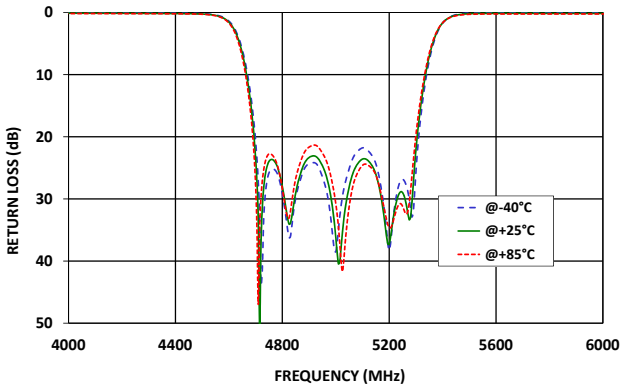
ZVBP-5G-S+
INSERTION LOSS



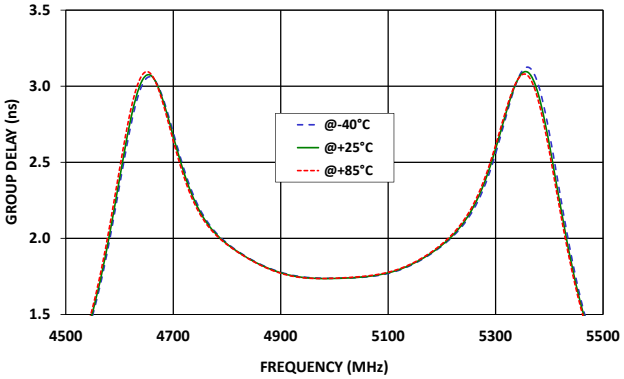

ZVBP-5G-S+
INSERTION LOSS (Zoomed)




ZVBP-5G-S+
RETURN LOSS




ZVBP-5G-S+
GROUP DELAY



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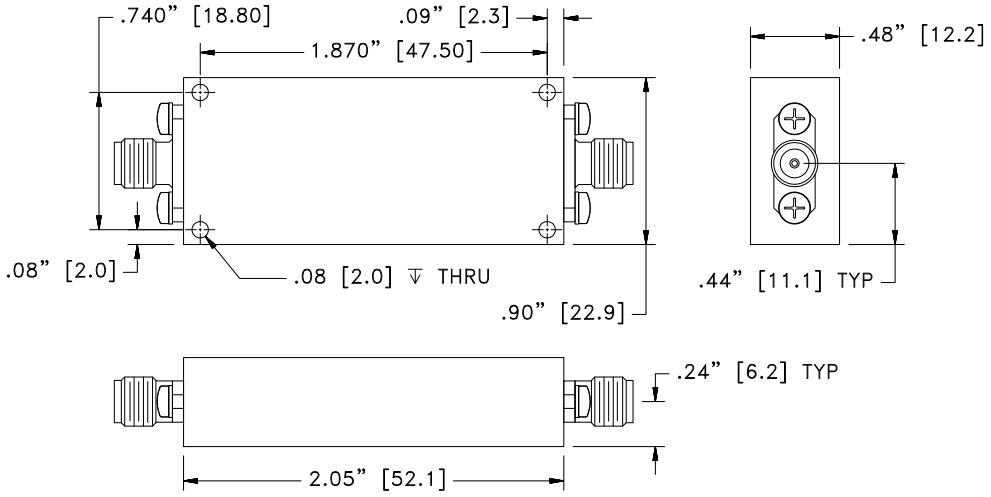
## CONNECTOR SPECIFICATIONS

| Description | RF1-Port | RF2-Port |
|---|---|---|
| Connector Type | SMA-Female | SMA-Female |
| Orientation | Straight | Straight |
| Impedance | 50 Ω | 50 Ω |
| Connector Body | Stainless Steel Passivated | Stainless Steel Passivated |
| Center Contact | Beryllium Copper | Beryllium Copper |
| Housing | 2-Hole Flange | 2-Hole Flange |
| Insulator | PTFE | PTFE |

## OUTLINE DRAWING




Weight: 80 grams

Dimensions are in inches[mm]. Tolerance: 2PL. ± .100; 3PL. ± .015

## PRODUCT MARKING*: ZVBP-5G-S+

*Marking may contain other features or characters for internal lot control.

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**ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASH BOARD** CLICK HERE

| | |
|---|---|
| **Performance Data and Graphs** | Data<br>Graphs<br>S-Parameter (S2P Files) Data Set (.zip file) |
| **Case Style** | YL3242 |
| **RoHs Status** | Compliant |
| **Environmental Rating** | ENV46 |

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-Circuits' 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/terms/viewterm.html