*Coaxial*

# Bandpass Filter

## ZFBP-2400+

50Ω 2300 to 2500 MHz

CASE STYLE: H16

## The Big Deal

- Narrow bandwidth
- Good VSWR, 1.3:1 typical
- High rejection, 50 dB typical
- Flat group delay, 0.3 ns typical
- High power, 8.5W

## Product Overview

ZFBP-2400+ is a 50Ω narrow band filter built into a shielded (size: 1.25" x 1.25" x 0.75") case. Covering a bandwidth of 2400 MHz ± 100 MHz, this filter offers good matching in the passband and high rejection in the stopband. Power handling capacity is as high as 8.5W at 25°C.

## Key Features

| Feature | Advantages |
|---|---|
| Narroe bandwidth (Fractional bandwidth of 8.3%) | Suitable for Narrow bandwidth applications like Wireless Communication Service and ISM. |
| Good VSWR, 1.3:1 typical | The model has good return loss for a narrow bandwidth which provides good matching when used with other devices. |
| High rejection (50 dB typical on lower side band and > 35 dB rejection till 6000 MHz on upper side band) | This enables the filter to attenuate sub harmonics and spurious signals. |
| Flat group delay characteristics (0.3 ns typical) | The model has a group delay flatness of 0.3 ns which helps in reducing the signal distortion. |
| High power (8.5W) | Suitable for base station and long-haul applications and test labs. |

*Coaxial*

# Bandpass Filter

## ZFBP-2400+

50Ω 2300 to 2500 MHz

CASE STYLE: H16

| Connectors | Model | Price | Qty. |
|---|---|---|---|
| **SMA-Female** | ZFBP-2400-S+ | $49.95 ea. | (1-9) |
| **BRACKET (OPTION "B")** | | $5.00 ea. | (1-9) |

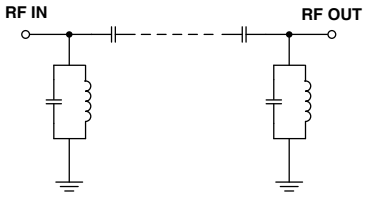
### Features

- High rejection, 50 dB typical
- Flat group delay over passband, 0.3 ns typical
- Good VSWR, 1.3:1 typical in passband
- Rugged shielded case

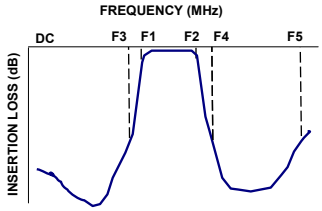
### Applications

- Harmonic rejection
- Transmitters / receivers
- Lab use

### Functional Schematic




### Typical Frequency Response




*+ 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

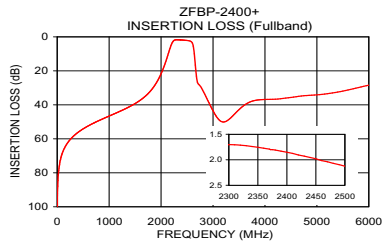
| Parameter | | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| **Pass Band** | Center Frequency | — | — | — | 2400 | — | MHz |
| | Insertion Loss | F1-F2 | 2300 - 2500 | — | 2.2 | 3.5 | dB |
| | VSWR | F1-F2 | 2300 - 2500 | — | 1.3 | 1.65 | :1 |
| **Stop Band, Lower** | Insertion Loss | DC-F3 | DC - 1800 | 20 | 30 | — | dB |
| | VSWR | DC-F3 | DC - 1800 | — | 50 | — | :1 |
| **Stop Band, Upper** | Insertion Loss | F4-F5 | 2800 - 6000 | 20 | 28 | — | dB |
| | VSWR | F4-F5 | 2800 - 6000 | — | 16 | — | :1 |

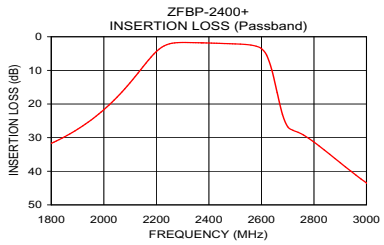
| Maximum Ratings | |
|---|---|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input* | 8.5W max. at 25°C |

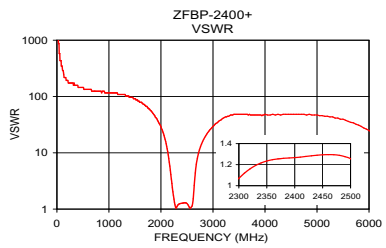
* Derate linearly to 4W at 100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

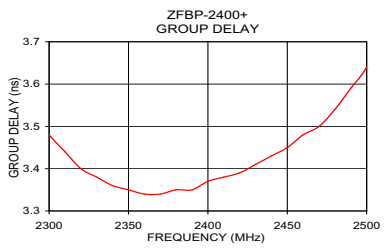
### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) | Frequency (MHz) | Group Delay (nsec) |
|---|---|---|---|---|
| 0.5 | 95.43 | 1737.18 | 2300.0 | 3.48 |
| 500.0 | 55.03 | 144.77 | 2310.0 | 3.44 |
| 1100.0 | 46.14 | 115.81 | 2320.0 | 3.40 |
| 1800.0 | 32.22 | 56.04 | 2330.0 | 3.38 |
| 2070.0 | 16.34 | 18.70 | 2340.0 | 3.36 |
| 2150.0 | 8.89 | 7.94 | 2350.0 | 3.35 |
| 2200.0 | 4.52 | 3.42 | 2360.0 | 3.34 |
| 2270.0 | 1.86 | 1.19 | 2370.0 | 3.34 |
| 2300.0 | 1.72 | 1.07 | 2380.0 | 3.35 |
| 2400.0 | 1.92 | 1.27 | 2390.0 | 3.35 |
| 2500.0 | 2.19 | 1.26 | 2400.0 | 3.37 |
| 2600.0 | 3.40 | 1.14 | 2410.0 | 3.38 |
| 2620.0 | 5.02 | 1.52 | 2420.0 | 3.39 |
| 2660.0 | 14.64 | 4.39 | 2430.0 | 3.41 |
| 2800.0 | 32.28 | 15.81 | 2440.0 | 3.43 |
| 3050.0 | 47.48 | 32.79 | 2450.0 | 3.45 |
| 3300.0 | 49.58 | 44.55 | 2460.0 | 3.48 |
| 4800.0 | 36.24 | 46.96 | 2470.0 | 3.50 |
| 5600.0 | 32.22 | 36.20 | 2480.0 | 3.54 |
| 6000.0 | 29.22 | 24.83 | 2500.0 | 3.64 |




*For detailed performance specs & shopping online see web site*



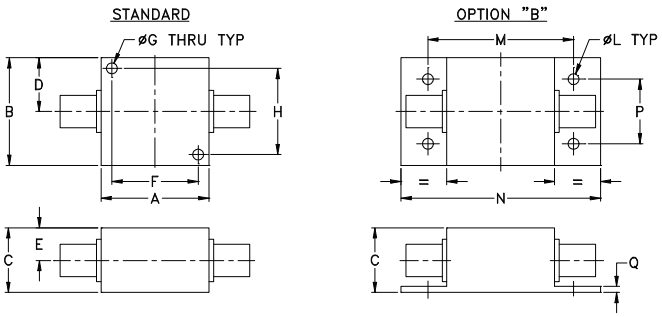
**Notes: 1.** Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. **2.** Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable 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.


REV. OR
M130734
ZFBP-2400+
EDR-9447/1AU
RAV/URJ/NY
111123

## Coaxial Connections

| | |
|---|---|
| INPUT | 1 (SMA female) |
| OUTPUT | 2 (SMA female) |

## Outline Drawing




## Outline Dimensions ( inch / mm )

| A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|
| 1.25 | 1.25 | .75 | .63 | .38 | 1.000 | .125 | 1.000 |
| 31.75 | 31.75 | 19.05 | 16.00 | 9.65 | 25.40 | 3.18 | 25.40 |

| J | K | L | M | N | P | Q | wt |
|---|---|---|---|---|---|---|---|
| -- | -- | .125 | 1.688 | 2.18 | .750 | .06 | grams |
| -- | -- | 3.18 | 42.88 | 55.37 | 19.05 | 1.52 | 70.0 |