*Surface Mount*

# Bandpass Filter

## SXBP-202+

50Ω 198 to 206 MHz

*Generic photo used for illustration purposes only*
CASE STYLE: HF1317

## The Big Deal

- Flat group delay, (0.6 ns typical)
- Narrow band, (3.96% fractional Bandwidth)
- High Wideband rejection, 40 dB from 290-2000 MHz
- Miniature shielded package

## Product Overview

The SXBP-202+ is a flat group delay bandpass filter fabricated using SMT technology. Covering 202 MHz ± 4 MHz, these units offer good matching within the passband and high rejection. This unit uses a miniature high Q capacitors and wire welded inductors for high reliability. It has repeatable performance across production lots and consistent performance across temperature.

## Key Features

| Feature | Advantages |
|---|---|
| Flat group delay characteristics | This model has a group delay flatness of 0.6 ns typical which in reducing the signal distortion |
| High rejection (40 dB) | Achieving 40 dB rejection over the wide stopband range 290-2000 MHz will be used for suppressing harmonics. |
| Small size, 0.44" x 0.74" x 0.19" | The surface mount package enables the SXBP-202+ to be used in compact designs. |

**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

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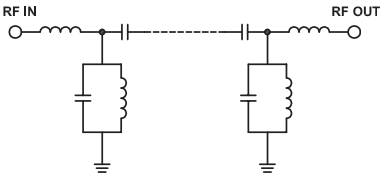
### Features

- Flat group delay over passband, (0.6 ns typical)
- High rejection 40 dB
- Miniature shielded package
- Aqueous washable

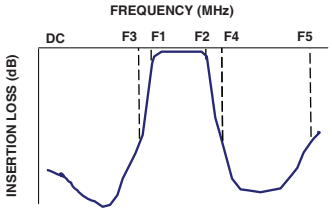
### Applications

- Test equipments
- Receivers / transmitters
- Harmonic rejection
- Military

### Functional Schematic




### Typical Frequency Response




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

### Electrical Specifications at 25°C

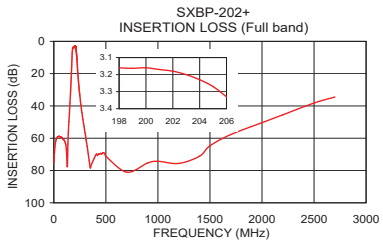
| Parameter | | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| Pass Band | Center Frequency | — | — | — | 202 | — | MHz |
| | Insertion Loss | F1-F2 | 198-206 | — | 3.4 | 5 | dB |
| | VSWR | F1-F2 | 198-206 | — | 1.9 | 2.3 | :1 |
| Stop Band, Lower | Insertion Loss | DC-F3 | DC-160 | 20 | 32 | — | dB |
| | VSWR | DC-F3 | DC-160 | — | 33 | — | :1 |
| Stop Band, Upper | Insertion Loss | F4-F5 | 250-2700 | 20 | 31 | — | dB |
| | VSWR | F4-F5 | 250-2700 | — | 27 | — | :1 |

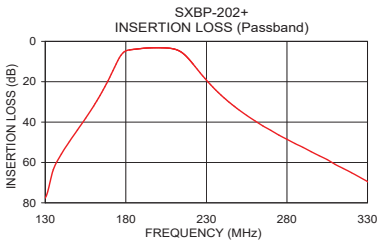
| Maximum Ratings | |
|---|---|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input | 0.4W max. |

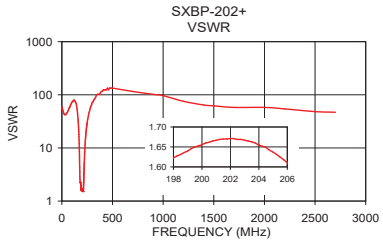
Permanent damage may occur if any of these limits are exceeded.

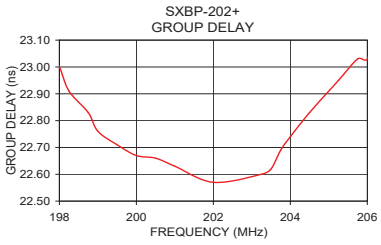
### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) | Frequency (MHz) | Group Delay (nsec) |
|---|---|---|---|---|
| 1 | 75.13 | 59.91 | 198.00 | 23.00 |
| 75 | 59.39 | 56.04 | 198.50 | 22.82 |
| 160 | 32.09 | 34.75 | 199.00 | 22.76 |
| 171 | 16.22 | 12.09 | 199.50 | 22.71 |
| 176 | 8.14 | 4.38 | 200.00 | 22.67 |
| 180 | 4.73 | 2.37 | 200.50 | 22.66 |
| 198 | 3.16 | 1.62 | 201.00 | 22.63 |
| 202 | 3.18 | 1.67 | 201.75 | 22.60 |
| 206 | 3.33 | 1.61 | 202.00 | 22.57 |
| 216 | 6.29 | 2.41 | 202.25 | 22.55 |
| 223 | 12.50 | 6.21 | 202.75 | 22.60 |
| 236 | 24.29 | 17.39 | 203.25 | 22.60 |
| 250 | 33.82 | 29.96 | 203.50 | 22.62 |
| 300 | 56.65 | 72.39 | 203.75 | 22.69 |
| 500 | 71.14 | 133.63 | 204.00 | 22.74 |
| 1000 | 74.29 | 96.51 | 204.50 | 22.83 |
| 1500 | 64.70 | 62.05 | 204.75 | 22.84 |
| 2000 | 50.37 | 57.91 | 205.00 | 22.86 |
| 2500 | 38.18 | 48.26 | 205.50 | 22.92 |
| 2700 | 34.48 | 46.96 | 206.00 | 23.03 |

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