*Surface Mount*

# Bandpass Filter

## SXBP-161R5+

50Ω 148 to 175 MHz

CASE STYLE: HF1139

## The Big Deal

- Flat group delay, 15ns
- High rejection (55 dB typical)
- Miniature shielded package
- Narrow bandwidth designed for radio-SMR and police band

## Product Overview

The SXBP-161R5+ is a narrow-band bandpass filter fabricated using SMT technology. Covering 161.5 MHz ± 13.5 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. It is enclosed in HF1139 package and has consistent performance across temperature.

## Key Features

| Feature | Advantages |
|---|---|
| Sharp shape factor | Sharp shape factor helps in adjacent channel rejection and hence increases selectivity. |
| More than 40dB rejection up to 2300MHz | This enables the filter to attenuate spurious signals and reject harmonics for a broad band of frequency. |
| Flat group delay characteristics (15 ns typical) | The model has a group delay flatness of 15ns which helps in reducing the signal distortion. |
| Small size, 0.44" X 0.74" X 0.27" | The surface mount package enables the SXBP-161R5+ to be used in compact designs. |

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# Bandpass Filter

50Ω 148 to 175 MHz

## SXBP-161R5+

CASE STYLE: HF1139

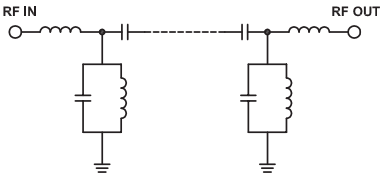
### Features

- Flat group delay over passband
- High rejection (55 dB typical)
- Shielded case
- Aqueous washable

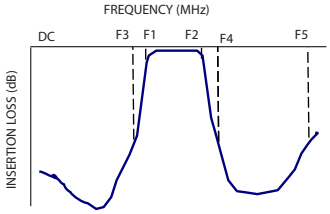
### Applications

- Test equipments
- Transmitters / Receivers
- Harmonic rejection
- Radio-SMR and police band
- 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

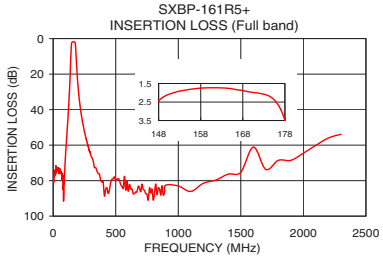
| Parameter | | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| Pass Band | Center Frequency | — | — | — | 161.5 | — | MHz |
| | Insertion Loss | F1-F2 | 148-175 | — | 2.6 | 3.5 | dB |
| | VSWR | F1-F2 | 148-175 | — | 1.4 | 1.8 | :1 |
| Stop Band, Lower | Insertion Loss | DC-F3 | DC-130 | 20 | 29 | — | dB |
| | VSWR | DC-F3 | DC-130 | — | 35 | — | :1 |
| Stop Band, Upper | Insertion Loss | F4-F5 | 200-2300 | 20 | 27 | — | dB |
| | VSWR | F4-F5 | 200-2300 | — | 26 | — | :1 |

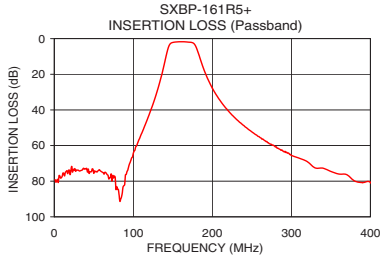
| Maximum Ratings | |
|---|---|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input | 0.4W max. |

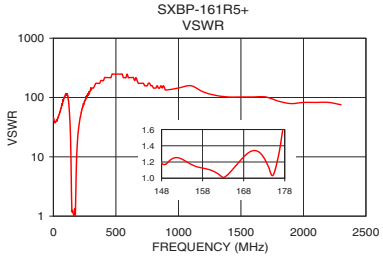
Permanent damage may occur if any of these limits are exceeded.

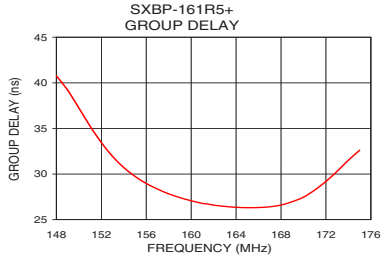
### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) | Frequency (MHz) | Group Delay (nsec) |
|---|---|---|---|---|
| 1.0 | 79.11 | 45.72 | 148.00 | 40.77 |
| 100.0 | 64.25 | 115.81 | 150.00 | 37.24 |
| 115.0 | 48.39 | 108.58 | 152.00 | 33.45 |
| 130.0 | 29.78 | 49.64 | 154.00 | 30.71 |
| 139.0 | 14.67 | 13.92 | 156.00 | 28.97 |
| 143.0 | 7.07 | 4.50 | 158.00 | 27.83 |
| 146.0 | 3.35 | 1.72 | 159.00 | 27.41 |
| 148.0 | 2.44 | 1.19 | 160.00 | 27.07 |
| 161.5 | 1.73 | 1.06 | 161.00 | 26.78 |
| 175.0 | 2.29 | 1.03 | 161.50 | 26.71 |
| 178.0 | 3.48 | 1.79 | 162.00 | 26.59 |
| 180.0 | 5.28 | 2.96 | 163.00 | 26.45 |
| 185.0 | 11.82 | 8.39 | 164.00 | 26.35 |
| 190.0 | 18.09 | 15.13 | 165.00 | 26.31 |
| 200.0 | 27.76 | 28.03 | 166.00 | 26.33 |
| 235.0 | 47.08 | 69.49 | 168.00 | 26.60 |
| 500.0 | 79.92 | 248.17 | 170.00 | 27.47 |
| 1000.0 | 83.01 | 144.77 | 172.00 | 29.19 |
| 1500.0 | 75.30 | 102.19 | 174.00 | 31.52 |
| 2300.0 | 53.86 | 75.53 | 175.00 | 32.61 |




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.
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