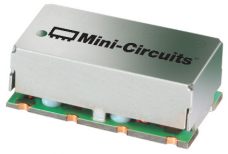
*Surface Mount*

# Bandpass Filter

## SXBP-69+

50Ω 61.9 to 76.5 MHz




*Generic photo used for illustration purposes only*
CASE STYLE: HF1139

## The Big Deal

- Narrow bandwidth
- High Rejection
- Good VSWR
- Miniature shielded package

## Product Overview

SXBP-69+ is a 50Ω bandpass filter in a shielded package fabricated using SMT technology. This bandpass filter covers from 61.9 to 76.5 MHz. This filter build with high Q capacitors and wire welded inductors for high reliability. This filter has a narrow bandwidth and sharper cut-off and pass the IF frequencys.

## Key Features

| Feature | Advantages |
|---|---|
| Low insertion loss | Can be used in telecommunication and broadband wireless application. |
| Good rejection | This enables the filter attenuate spurious signals and reject harmonics for broad frequency band |
| Shielded package | The small surface mount package enables the SXBP-69+ to used in compact design |

*Surface Mount*

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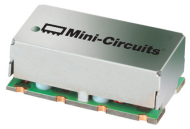
## SXBP-69+




*Generic photo used for illustration purposes only*

CASE STYLE: HF1139

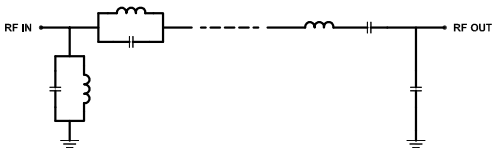
### Features

- Narrow bandwidth
- Sharper roll off
- Miniature shielded package

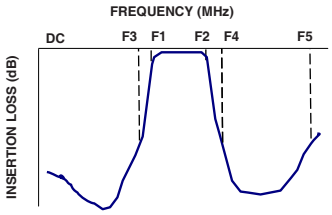
### Applications

- Telecommunication and broadband wireless
- Harmonic rejection
- IF signal processing

### 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 | — | — | — | 69 | — | MHz |
| | Insertion Loss | F1-F2 | 61.9-76.5 | — | 1.90 | 3.50 | dB |
| | VSWR | F1-F2 | 61.9-76.5 | — | 1.57 | 2.10 | :1 |
| Stop Band, Lower | Insertion Loss | DC-F3 | DC-55 | 20 | 26 | — | dB |
| | VSWR | DC-F3 | DC-55 | — | 20 | — | :1 |
| Stop Band, Upper | Insertion Loss | F4-F5 | 87-3200 | 20 | 27 | — | dB |
| | VSWR | F4-F5 | 87-3200 | — | 20 | — | :1 |

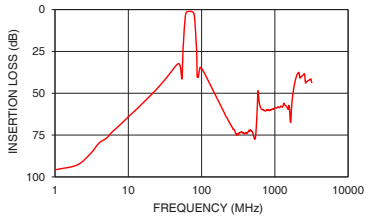
| Maximum Ratings | |
|---|---|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input | 0.5W |

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

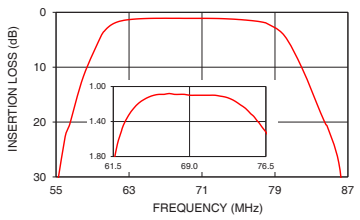
### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) | Frequency (MHz) | Group Delay (nsec) |
|---|---|---|---|---|
| 1.0 | 95.77 | 1737.18 | 61.9 | 68.46 |
| 26.0 | 46.16 | 217.15 | 62.5 | 62.00 |
| 55.0 | 32.07 | 25.19 | 63.0 | 57.47 |
| 55.2 | 30.71 | 22.65 | 64.0 | 50.81 |
| 56.4 | 20.85 | 11.82 | 65.0 | 46.38 |
| 58.0 | 11.69 | 9.43 | 66.0 | 43.26 |
| 60.5 | 3.05 | 2.18 | 67.0 | 40.98 |
| 61.9 | 1.66 | 1.37 | 68.0 | 39.39 |
| 69.0 | 1.10 | 1.38 | 69.0 | 38.51 |
| 76.5 | 1.52 | 1.20 | 70.0 | 38.23 |
| 80.0 | 4.18 | 2.45 | 71.0 | 38.54 |
| 82.0 | 10.28 | 7.60 | 72.0 | 39.31 |
| 84.6 | 20.51 | 18.44 | 72.5 | 39.81 |
| 86.0 | 27.43 | 28.49 | 73.0 | 40.41 |
| 87.0 | 40.33 | 39.32 | 73.5 | 41.07 |
| 300.0 | 75.10 | 108.58 | 74.0 | 41.87 |
| 595.0 | 49.70 | 5.30 | 74.5 | 42.78 |
| 1650.0 | 67.38 | 54.29 | 75.0 | 43.91 |
| 2150.0 | 38.23 | 7.76 | 75.5 | 45.35 |
| 3200.0 | 43.44 | 12.09 | 76.5 | 49.48 |

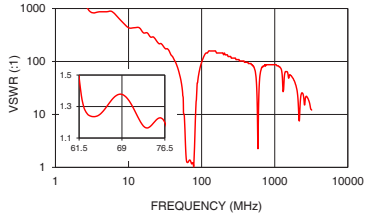
SXBP-69+
INSERTION LOSS (Full band)



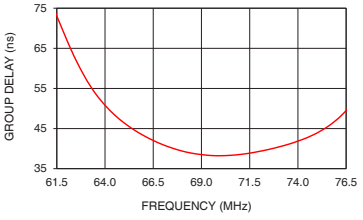

SXBP-69+
INSERTION LOSS (Pass band)




SXBP-69+
VSWR




SXBP-69+
GROUP DELAY



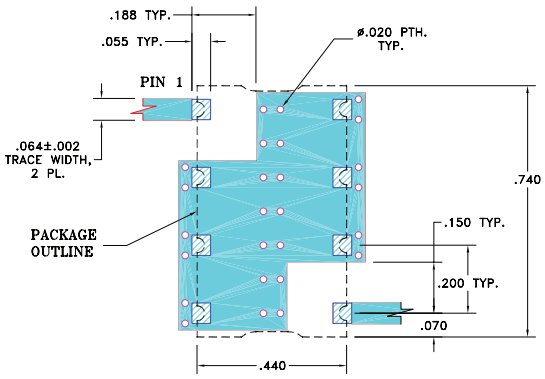

Notes

**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

## Pad Connections

| | |
|---|---|
| INPUT | 1 |
| OUTPUT | 8 |
| GROUND | 2,3,4,5,6,7 |

***Demo Board MCL P/N: TB-368***
***Suggested PCB Layout (PL-230)***



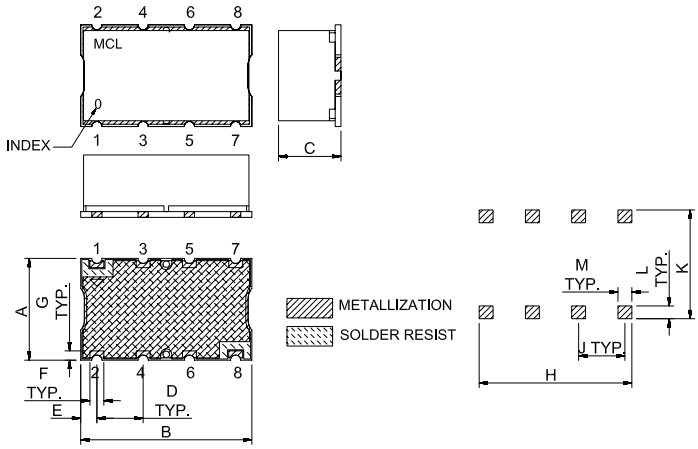

NOTE:

1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS: .025"±.002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

## Outline Drawing




## Outline Dimensions ( inch / mm )

| A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|
| .44 | .74 | .27 | .200 | .07 | .060 | .040 |
| 11.18 | 18.80 | 6.86 | 5.08 | 1.78 | 1.52 | 1.02 |
| **H** | **J** | **K** | **L** | **M** | | **wt** |
| .660 | .200 | .470 | .055 | .060 | | grams |
| 16.76 | 5.08 | 11.94 | 1.40 | 1.52 | | 3.0 |

*Note: Please refer to case style drawing for details*