*Surface Mount*

# Bandpass Filter

## SXBP-404+

50Ω  398 to 410 MHz

CASE STYLE: HF1139

## The Big Deal

- Flat group delay (3ns typical)
- Narrow band (<3% fractional Bandwidth)
- High rejection (50dB typical)
- Fast roll-off
- Miniature shielded package

## Product Overview

The SXBP-404+ is a narrow-band bandpass filter fabricated using SMT technology. Covering 404 MHz ± 6 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 |
|---|---|
| Narrow bandwidth filter (fractional bandwidth of < 3%) | This enables the filter to reject adjacent channels with increased selectivity. |
| More than 40dB rejection up to 2400MHz | This enables the filter to attenuate spurious signals and reject harmonics for broad band of frequency. |
| Flat group delay (3 ns typical) | This model has flat group delay of 3nsec which helps in reducing the signal distortion. |
| Small size, 0.44" x 0.74" x 0.27" | The surface mount package enables the SXBP-404+ to be used in compact designs. |

*Surface Mount*

# Bandpass Filter

50Ω 398 to 410 MHz

# SXBP-404+

CASE STYLE: HF1139
PRICE: $17.95 ea. QTY (1-9)

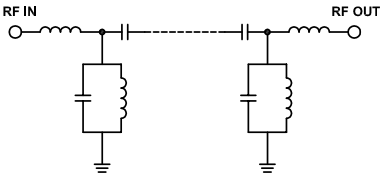
## Features

- Flat group delay over passband
- High rejection, (50 dB typical)
- Shielded case
- Aqueous washable

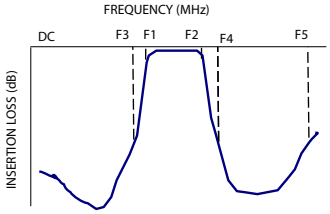
## Applications

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

## 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

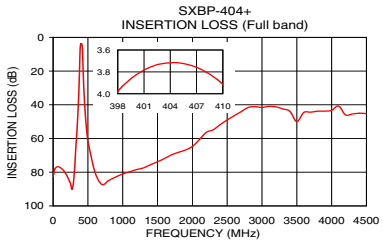
| Parameter | | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| **Pass Band** | Center Frequency | — | — | — | 404 | — | MHz |
| | Insertion Loss | F1-F2 | 398-410 | — | 4.1 | 5.5 | dB |
| | VSWR | F1-F2 | 398-410 | — | 1.5 | 2.0 | :1 |
| **Stop Band, Lower** | Insertion Loss | DC-F3 | DC-370 | 20 | 31 | — | dB |
| | VSWR | DC-F3 | DC-370 | — | 24 | — | :1 |
| **Stop Band, Upper** | Insertion Loss | F4-F5 | 445-4500 | 20 | 32 | — | dB |
| | VSWR | F4-F5 | 445-4500 | — | 19 | — | :1 |

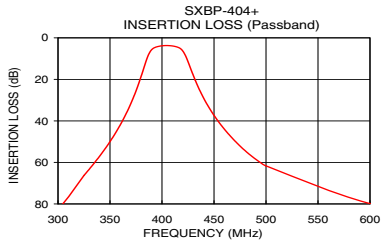
| Maximum Ratings | |
|---|---|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input | 0.25W max. |

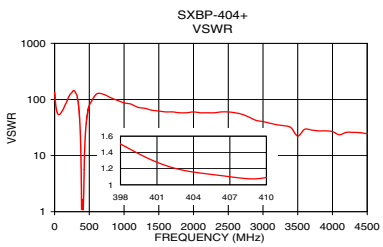
Permanent damage may occur if any of these limits are exceeded.

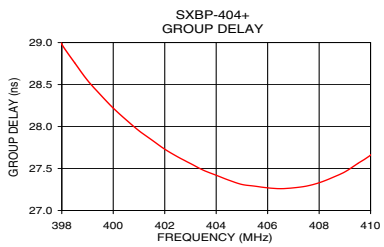
## Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) | Frequency (MHz) | Group Delay (nsec) |
|---|---|---|---|---|
| 1.0 | 83.12 | 133.63 | 398.00 | 28.98 |
| 326.0 | 67.26 | 108.58 | 399.00 | 28.55 |
| 350.0 | 50.91 | 66.82 | 400.00 | 28.22 |
| 370.0 | 32.52 | 25.94 | 401.00 | 27.95 |
| 379.0 | 20.75 | 10.25 | 402.00 | 27.73 |
| 386.0 | 9.82 | 2.50 | 402.50 | 27.64 |
| 393.0 | 4.96 | 1.58 | 403.00 | 27.56 |
| 398.0 | 4.12 | 1.50 | 403.50 | 27.48 |
| 404.0 | 3.69 | 1.16 | 404.00 | 27.42 |
| 410.0 | 3.84 | 1.09 | 404.50 | 27.36 |
| 420.0 | 6.24 | 2.26 | 405.00 | 27.31 |
| 426.0 | 12.13 | 5.66 | 405.50 | 27.29 |
| 445.0 | 32.95 | 25.94 | 406.00 | 27.27 |
| 500.0 | 62.04 | 78.97 | 406.50 | 27.26 |
| 700.0 | 85.57 | 124.09 | 407.00 | 27.27 |
| 1000.0 | 79.97 | 86.86 | 407.50 | 27.29 |
| 2000.0 | 64.54 | 59.91 | 408.00 | 27.33 |
| 3000.0 | 41.90 | 40.41 | 408.50 | 27.39 |
| 4000.0 | 44.13 | 26.74 | 409.00 | 27.46 |
| 4500.0 | 45.71 | 24.48 | 410.00 | 27.66 |




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



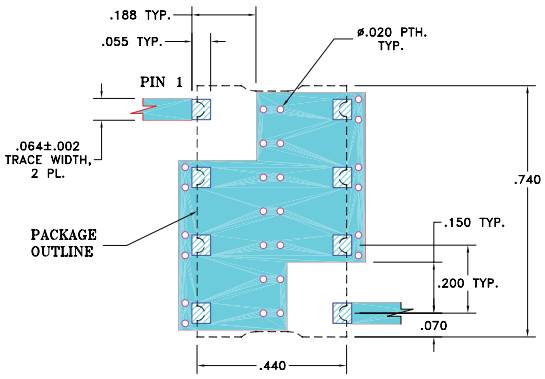



REV. OR
M130695
SXBP-404+
EDR10118U
RAV/URJ/NY
110418

## 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)***



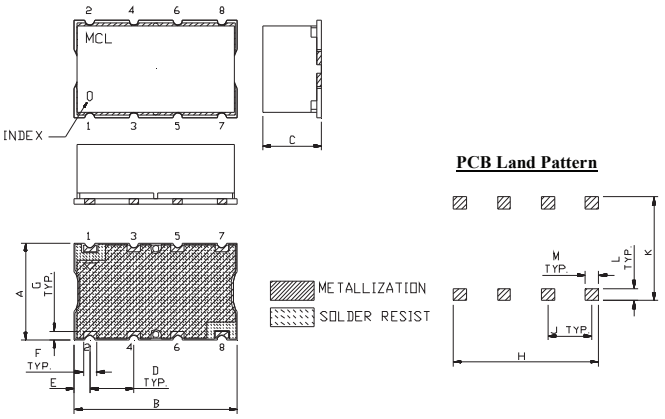

NOTE:

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 |