

# Surface Mount Bandpass Filter

## SXBP-202+

50Ω 198 to 206 MHz

### 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



CASE STYLE: HF1317

### Product Overview

The SXBP-202+ is a flat group delay bandpass filter fabricated using SMT technology. Covering 202 MHz  $\pm$  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/MCStore/terms.jsp](http://www.minicircuits.com/MCStore/terms.jsp)



# Surface Mount Bandpass Filter

50Ω 198 to 206 MHz

## SXBP-202+



CASE STYLE: HF1317  
PRICE: \$22.95 ea. QTY (1-9)

### 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

### Electrical Specifications at 25°C

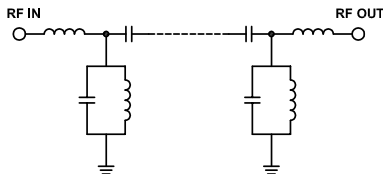
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	202	—	MHz
	Insertion Loss	F1-F2	—	3.4	5	dB
	VSWR	F1-F2	—	1.9	2.3	:1
Stop Band, Lower	Insertion Loss	DC-F3	20	32	—	dB
	VSWR	DC-F3	—	33	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	20	31	—	dB
	VSWR	F4-F5	—	27	—	:1

### Maximum Ratings

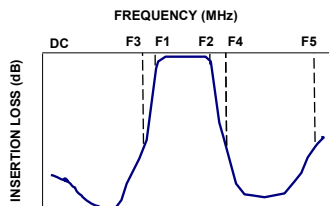
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.4W max.

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

### Functional Schematic



### Typical Frequency Response

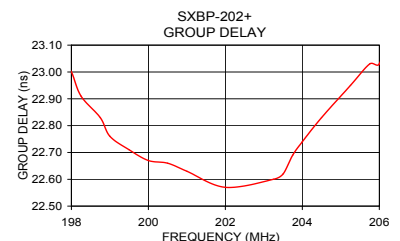
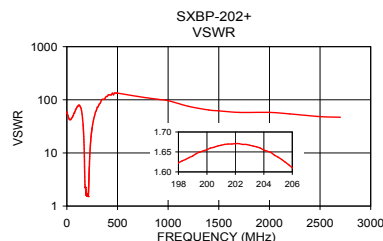
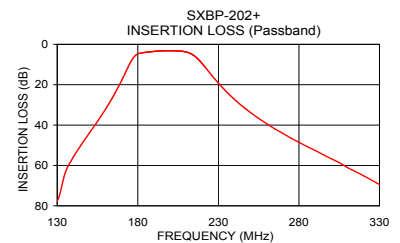
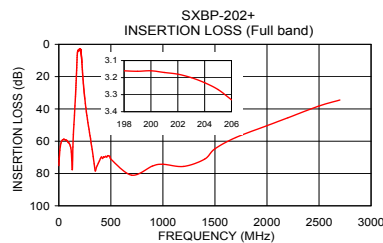


### Typical Performance Data at 25°C

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

### +RoHS Compliant

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



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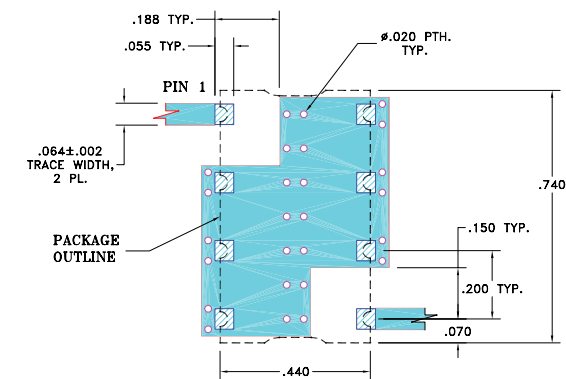
[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 35166, Brooklyn, NY 11235-0003 (718) 934-4500 [sales@minicircuits.com](mailto:sales@minicircuits.com)

REV. A  
M144165  
SXBP-202+  
EDU1490  
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Pad Connections

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

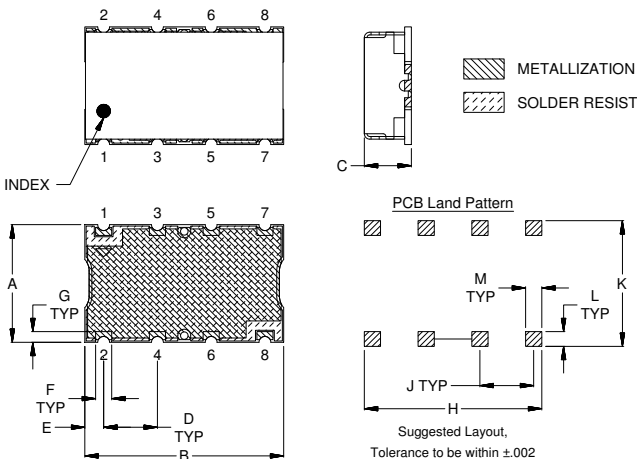
Demo Board MCL P/N: TB-368  
Suggested PCB Layout (PL-230)



- NOTE:
- 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.
  - 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	
.440	.740	.190	.200	.070	.060	
11.18	18.80	4.83	5.08	1.78	1.52	
G	H	J	K	L	M	Wt.
.040	.660	.200	.470	.055	.060	grams
1.02	16.76	5.08	11.94	1.40	1.52	3.0

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