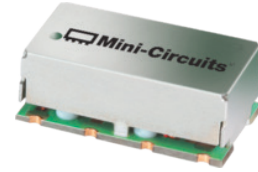


Surface Mount Bandpass Filter

SXBP-300+

50Ω 290 to 310 MHz



Generic photo used for illustration purposes only
CASE STYLE: HF1139

The Big Deal

- Narrow band filter (BW of 6.5%)
- High rejection, 65 dB typical
- Good VSWR, 1.3:1 typical
- Miniature shielded package

Product Overview

The SXBP-300+ is a narrow-band bandpass filter fabricated using SMT technology. The bandpass filter covers from 290-310 MHz and offer good matching within the passband and high rejection. This filter uses miniature high Q capacitors and wire welded inductors for high reliability. In addition it has repeatable performance across production lots and consistent performance across temperature.

Key Features

Feature	Advantages
Narrow bandwidth filter (Fractional bandwidth of 6.5%)	Provides sharp rejection which enables the filter to be used in adjacent channel rejection.
High rejection, 65 dB typical	This enables the filter to attenuate spurious signals and reject harmonics for a broad frequency band.
Shielded case	The surface mount package enables the SXBP-300+ to be used in compact designs.

Notes

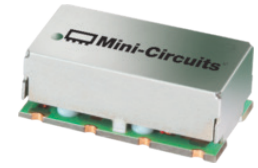
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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



Bandpass Filter

SXBP-300+

50Ω 290 to 310 MHz



Generic photo used for illustration purposes only
CASE STYLE: HF1139

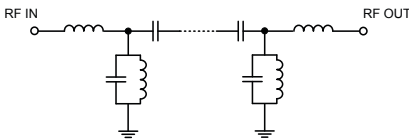
Features

- Good VSWR, 1.3:1 typical
- High rejection, 65 dB typical
- Shielded case

Applications

- Test and measurement
- Fixed and mobile communication
- Transmitters / Receivers

Functional Schematic



Electrical Specifications at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Center frequency	-	-	300	-	MHz	
	Insertion Loss	F1-F2	290 - 310	3.5	4.5	dB	
	VSWR	F1-F2	290 - 310	-	1.3	1.57	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC - 200	60	69	-	dB
		F3-F4	200 - 249	40	46	-	dB
		F4-F5	249 - 265	20	30	-	dB
Stop Band, Upper	Insertion Loss	F6-F7	335 - 365	20	27	-	dB
		F7-F8	365 - 750	40	47	-	dB
		F8-F9	750 - 2000	55	68	-	dB
		F9-F10	2000 - 3300	30	39	-	dB

Maximum Ratings

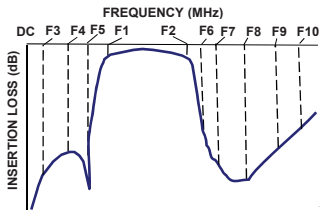
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.4 W max.

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

Typical Performance Data at 25°C

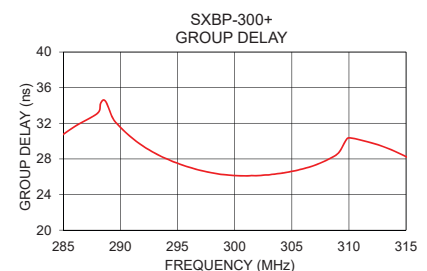
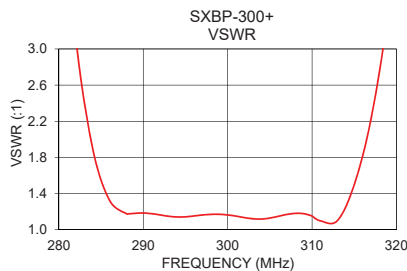
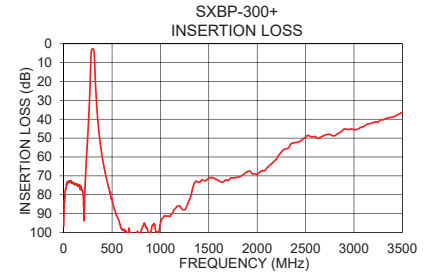
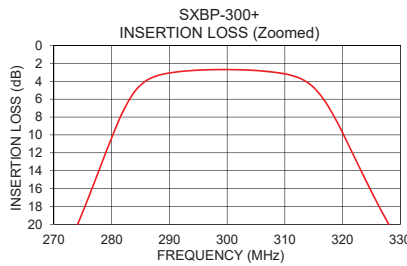
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	96.89	59.62	290	31.54
10	81.09	53.70	291	30.38
100	73.74	83.69	292	29.42
200	79.87	207.23	293	28.66
249	48.93	97.63	294	28.04
265	32.44	39.01	295	27.52
274	20.18	15.79	296	27.08
290	3.07	1.18	297	26.71
295	2.75	1.14	298	26.44
300	2.69	1.16	299	26.24
305	2.79	1.13	300	26.13
310	3.17	1.15	301	26.10
329	21.15	13.55	302	26.12
335	27.29	21.07	303	26.21
341	32.43	29.07	304	26.38
365	47.03	66.11	305	26.61
750	100.92	746.97	306	26.89
2000	69.11	137.73	307	27.28
3000	45.52	138.17	308	27.83
3300	40.30	59.70	310	30.36

Typical Frequency Response



+RoHS Compliant

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



Notes

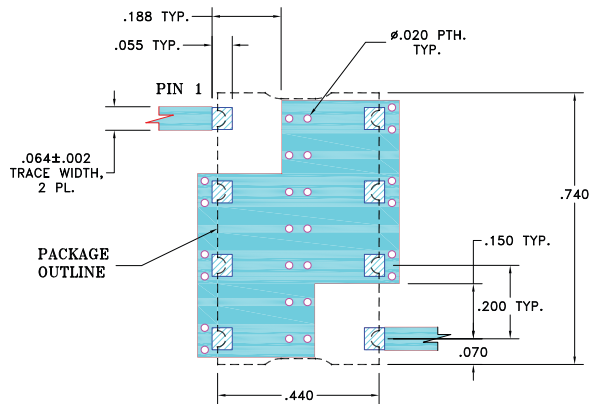
- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
- 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)

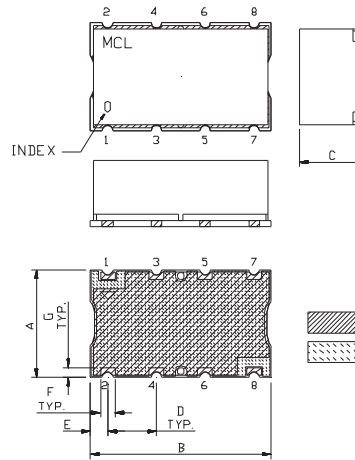


NOTE:

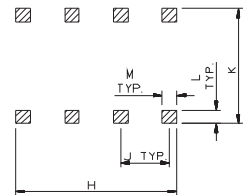
- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS: .025"±.002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Drawing



PCB Land Pattern



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

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