

50Ω

300 to 320 MHz

The Big Deal

- Narrow band filter (BW of 6.5%)
- High rejection (64 dB typical)
- Good VSWR (1.35:1 typical)
- Fast roll-off
- Miniature shielded package



CASE STYLE: HF1139

Product Overview

The SXBP-310+ is a narrow-band bandpass filter fabricated using SMT technology. Covering 310 MHz \pm 10 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. 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.
More than 40dB rejection up to 2250MHz	This enables the filter to attenuate spurious signals and reject harmonics for a broad frequency band.
Good VSWR, 1.35:1 typical over passband	The SXBP-310+ has very good return loss for a narrow bandwidth which provides good interface when used with other devices.
Flat group delay characteristics	The model has a group delay flatness of 8 nsec which helps in reducing the signal distortion.
Shielded case	Reduced interference with and from the surrounding components.

Notes

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Surface Mount Bandpass Filter

50Ω 300 to 320 MHz

SXBP-310+



CASE STYLE: HF1139

Features

- Flat group delay over passband
- Good VSWR, 1.35:1 typical in passband
- Sharp insertion loss roll-off
- High rejection, (64 dB typical)
- Shielded case
- Aqueous washable

Applications

- Harmonic Rejection
- Transmitters / Receivers
- Military

Electrical Specifications at 25°C

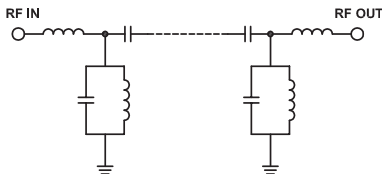
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	310	—	MHz
	Insertion Loss	F1-F2	—	4.3	5.5	dB
	VSWR	F1-F2	—	1.35	1.8	:1
Stop Band, Lower	Insertion Loss	DC-F3	20	30	—	dB
	VSWR	DC-F3	—	25	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	20	30	—	dB
	VSWR	F4-F5	—	20	—	:1

Maximum Ratings

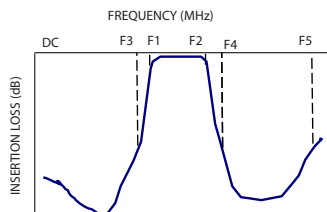
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.4W max.

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

Functional Schematic



Typical Frequency Response

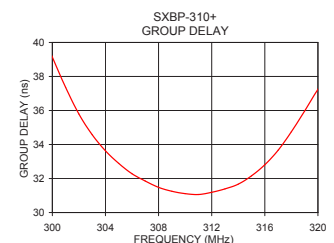
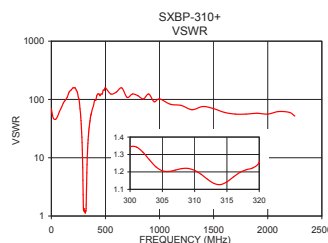
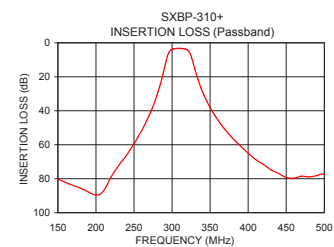
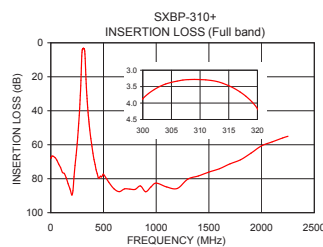


Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1.0	65.44	69.49	300.0	39.14
146.0	74.81	108.58	301.0	37.36
260.0	51.84	86.86	302.0	35.79
280.0	31.19	27.59	303.0	34.58
288.0	18.55	10.13	304.0	33.63
292.0	10.95	4.12	305.0	32.89
294.0	7.59	2.32	306.0	32.28
300.0	3.89	1.34	307.0	31.85
305.0	3.39	1.21	308.0	31.48
310.0	3.31	1.21	310.0	31.11
320.0	4.24	1.25	311.0	31.06
326.0	9.58	3.65	312.0	31.19
330.0	15.90	7.70	313.0	31.39
342.0	31.20	23.18	314.0	31.67
370.0	51.85	57.91	315.0	32.16
500.0	74.60	157.93	316.0	32.81
1000.0	83.03	102.19	317.0	33.66
1500.0	78.06	69.49	318.0	34.75
2000.0	60.78	56.04	319.0	35.97
2250.0	54.90	51.86	320.0	37.24

+RoHS Compliant

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



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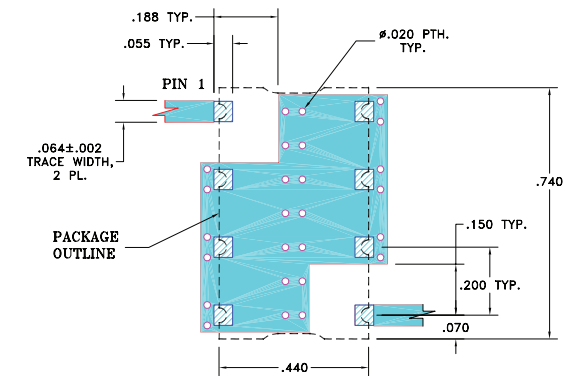
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REV. A
M160153
SXBP-310+
EDR-9811U
RAV/URJ/NY
161230
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Pad Connections

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

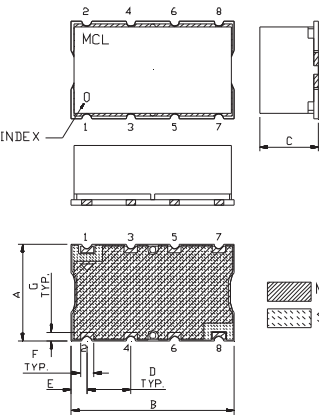
Demo Board MCL P/N: TB-368
Suggested PCB Layout (PL-230)



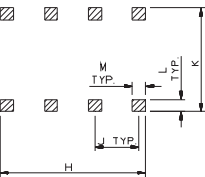
- NOTE:
1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS: .025"±.002". COPPER: 1/2 OZ. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
 2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

Outline Drawing



PCB Land Pattern



Outline Dimensions (inch)

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

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