

# Surface Mount Bandpass Filter

## SXBP-100+

50Ω 87 to 117 MHz

### Maximum Ratings

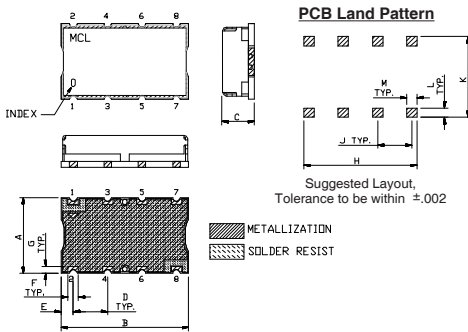
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.25W Max.

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

### Pin Connections

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

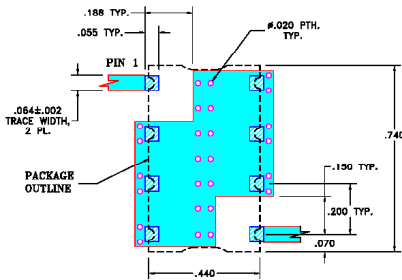
### Outline Drawing



### Outline Dimensions (inch/mm)

	A	B	C	D	E	F	
	.44	.74	.27	.200	.07	.060	
	11.18	18.80	6.86	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

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



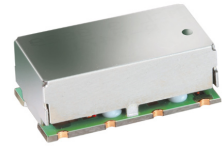
- NOTE:
- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS: .020"±.002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
  - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
  - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Features

- high rejection
- good VSWR, 1.3:1 typ @ passband
- shielded case
- aqueous washable

### Applications

- radio
- test equipment
- receivers / transmitters
- harmonic rejection



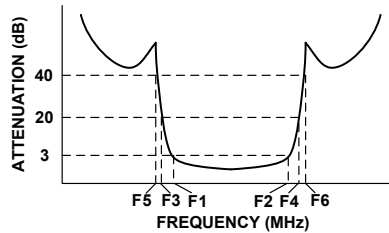
CASE STYLE: HF1139

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

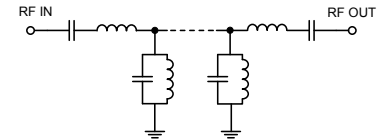
### Bandpass Filter Electrical Specifications (T<sub>AMB</sub> = 25°C)

CENTER FREQ. (MHz)	PASSBAND (MHz) (Loss < 3dB)	STOPBANDS (MHz)				VSWR (:1)		
		Loss > 20dB		Loss > 40dB		Passband		Stopband
F <sub>c</sub>	F <sub>1</sub> - F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>	F <sub>5</sub>	F <sub>6</sub>	Typ.	Max.	Typ.
100	87 - 117	66	143	55	175 - 1500	1.3	1.7	20

### Typical Frequency Response

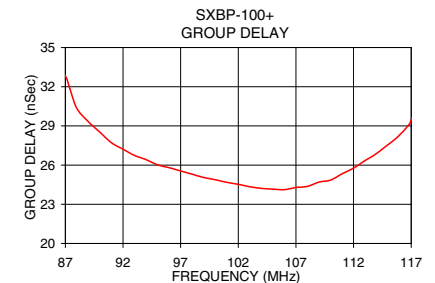
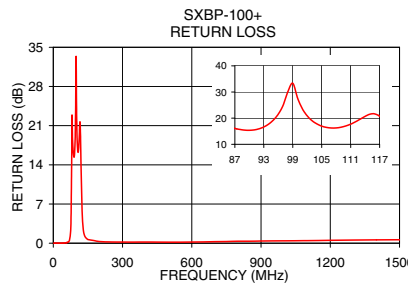
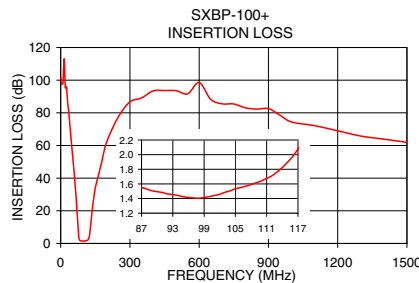


### Functional Schematic



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nSec)
	$\bar{x}$	$\sigma$			
1	101.48	3.67	0.01	87	32.84
55	48.64	0.58	0.07	88	30.34
66	29.62	0.77	0.27	89	29.32
70	21.58	0.91	0.49	90	28.52
75	10.14	1.07	2.15	92	27.22
78	4.46	0.73	7.86	94	26.42
80	2.65	0.36	17.52	96	25.80
87	1.55	0.05	16.07	98	25.30
95	1.42	0.03	19.31	100	24.88
100	1.43	0.04	27.69	102	24.53
110	1.64	0.05	17.02	104	24.22
117	2.08	0.07	20.71	106	24.12
125	5.20	0.70	5.54	108	24.37
130	11.60	0.86	2.39	110	24.85
140	24.55	0.66	1.02	111	25.33
143	27.66	0.62	0.89	112	25.77
175	48.35	0.58	0.48	113	26.35
1500	61.87	0.63	0.62	117	29.46



### 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-Circuit's applicable established test performance criteria and measurement instructions.
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