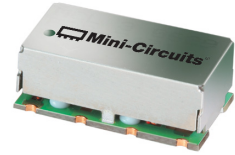


# Bandpass Filter

50Ω 170 to 186 MHz

## SXBP-178+



Generic photo used for illustration purposes only  
CASE STYLE: HF1139

### Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W 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

### Features

- excellent rejection
- flat group delay @ passband
- good VSWR, 1.2:1 typ. @ passband

### Applications

- receivers / transmitters
- CDMA base station

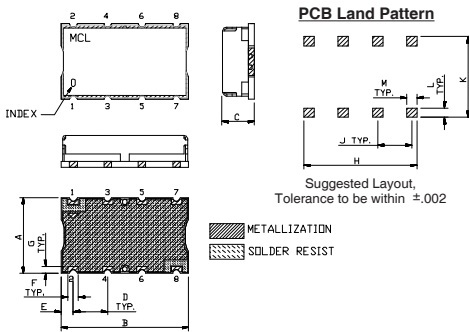
**+RoHS Compliant**

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) F1 - F2	STOPBANDS (MHz)				VSWR (:1)	
		Loss > 20dB		Loss > 40dB		Passband Max.	Stopband Typ.
		F3	F4	F5	F6		
178	170 - 186	150	210	135	240 - 2000	1.5	20

### Outline Drawing

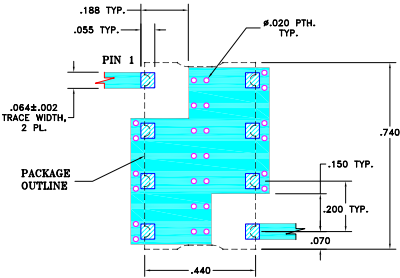


### Outline Dimensions (inch/mm)

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

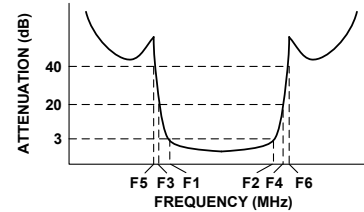
Note: Please refer to case style drawing for details

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

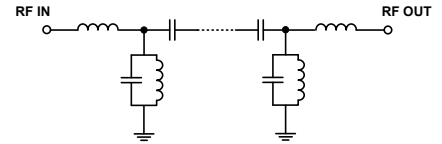


- NOTE:
1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS: .025" ± .002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
  2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
  - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Typical Frequency Response

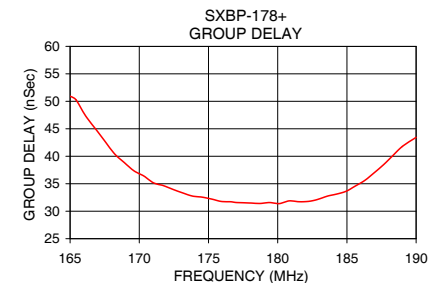
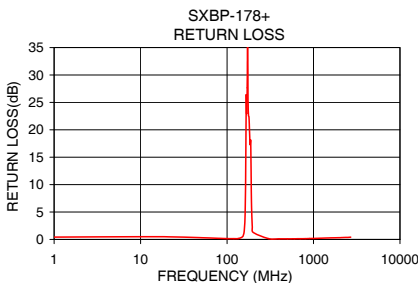
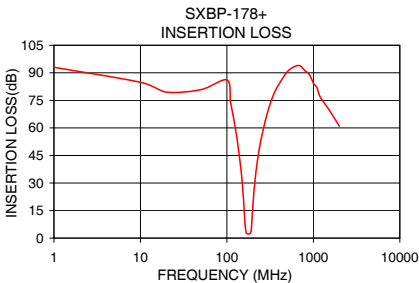


### Functional Schematic



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nSec)
	$\bar{x}$	$\sigma$			
1.0	93.03	6.18	0.42	165.0	50.93
135.0	49.78	0.49	0.17	167.0	44.46
150.0	30.67	0.60	0.45	168.0	42.70
159.0	14.09	0.83	1.92	169.0	38.84
163.0	6.12	0.61	7.06	170.0	37.33
170.0	2.48	0.05	24.26	171.0	35.17
178.0	2.23	0.01	22.44	173.0	33.34
186.0	2.61	0.04	17.52	174.0	32.76
191.0	4.41	0.45	8.71	176.0	31.77
194.0	8.32	0.79	3.64	178.0	31.49
199.0	16.45	0.74	1.46	179.0	31.41
210.0	29.98	0.48	0.64	181.0	31.89
240.0	50.04	0.21	0.28	182.0	31.73
400.0	83.79	1.77	0.11	183.0	32.14
900.0	89.10	5.45	0.16	185.0	33.62
1200.0	76.91	0.98	0.22	186.0	34.56
1600.0	66.71	0.70	0.28	188.0	38.47
2000.0	60.95	1.70	0.32	190.0	43.45



### 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.
- The parts covered by this specification document are subject to Mini-Circuit's 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-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

