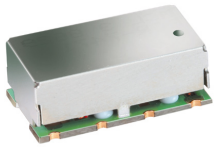
Surface Mount

Bandpass Filter

SXBP-178+

50Ω 170 to 186 MHz



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

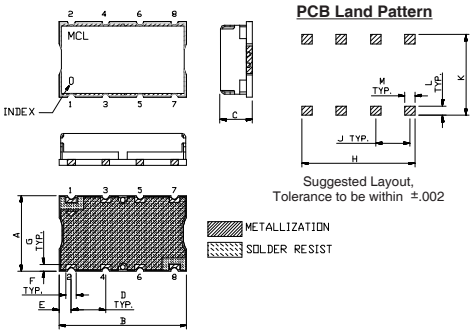
Applications

- receivers / transmitters
- CDMA base station

+RoHS Compliant

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

Outline Drawing

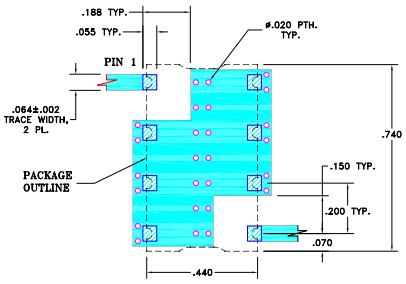


Outline Dimensions (inch / mm)

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:
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.

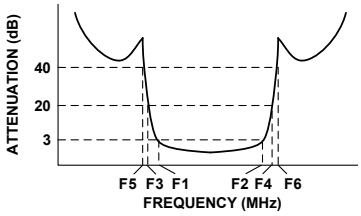
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

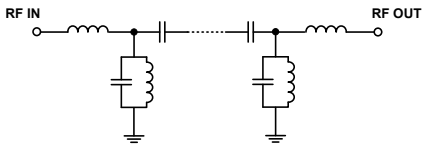
Bandpass Filter Electrical Specifications (T_{AMB}= 25°C)

CENTER FREQ. (MHz)	PASSBAND (MHz) (Loss < 3dB) F1 - F2	STOPBANDS (MHz) Loss > 20dB F3	F4	Loss > 40dB F5	F6	VSWR (:1) Passband Max.	Stopband Typ.
178	170 - 186	150	210	135	240 - 2000	1.5	20

Typical Frequency Response



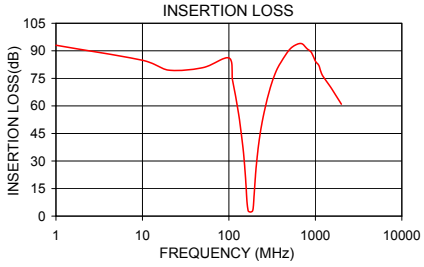
Functional Schematic



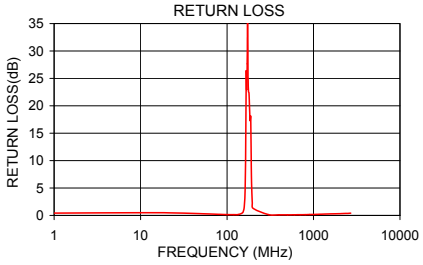
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB) x̄	σ	Return Loss (dB)	Frequency (MHz)	Group Delay (nSec)
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

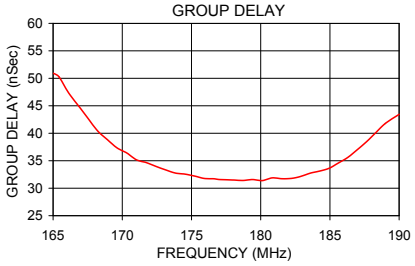
SXBP-178+
INSERTION LOSS



SXBP-178+
RETURN LOSS



SXBP-178+
GROUP DELAY



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