Surface Mount

Bandpass Filter

BPF-A120+

50Ω 100 to 140 MHz

Generic photo used for illustration purposes only

CASE STYLE: HQ1157

The Big Deal

- Broader bandwidth
- High Rejection
- Miniature shielded package

Product Overview

BPF-A120+ is a 50Ω bandpass filter in a shielded package fabricated using SMT technology. This bandpass filter covers from 100 to 140 MHz. This filter build with high Q capacitors and wire welded inductors for high reliability. This filter offers sharp rejection and low insertion loss for use in Test and measurement system applications.

Key Features

Feature	Advantages
Low insertion loss	Can be used in Transmitters/Receivers application
Good rejection	This enables the filter attenuate spurious signals and reject harmonics for broad frequency band
Shielded package	The small surface mount package enables the BPF-A120+ to used in compact design

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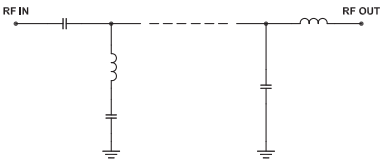
Features

- Broader bandwidth
- High rejection
- Miniature shielded package

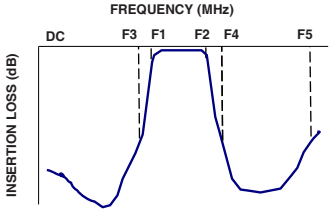
Applications

- Test and measurement
- Harmonic rejection
- Transmitters / Receivers

Functional Schematic



Typical Frequency Response



+RoHS Compliant

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

Electrical Specifications at 25°C

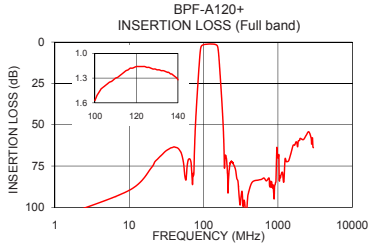
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	—	120	—	MHz
	Insertion Loss	F1-F2	100-140	—	1.7	2.5	dB
	VSWR	F1-F2	100-140	—	1.3	1.92	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-82	20	28.1	—	dB
	VSWR	DC-F3	DC-82	—	20	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	174-3000	20	31.7	—	dB
	VSWR	F4-F5	174-3000	—	20	—	:1

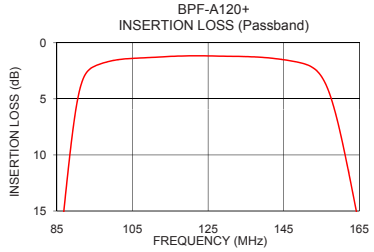
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5 W

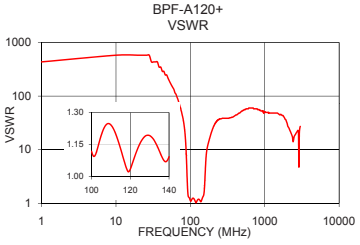
Permanent damage may occur if any of these limits are exceeded.

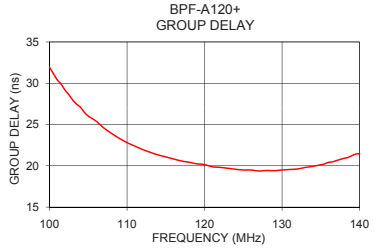
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1.0	106.85	434.30	100.0	31.95
50.0	67.11	217.15	102.0	29.18
82.0	31.80	29.96	104.0	27.09
82.5	29.94	28.03	106.0	25.42
85.5	19.39	17.22	108.0	23.93
92.0	3.14	1.75	110.0	22.81
100.0	1.57	1.12	112.0	21.98
120.0	1.16	1.04	114.0	21.32
140.0	1.32	1.09	116.0	20.83
155.0	3.02	2.02	118.0	20.43
167.0	19.91	10.13	120.0	20.15
173.0	30.40	12.71	122.0	19.81
174.0	32.17	13.09	124.0	19.58
250.0	73.64	37.77	126.0	19.49
650.0	82.27	59.91	128.0	19.43
1000.0	70.10	51.10	130.0	19.49
1600.0	62.49	44.55	134.0	19.94
2000.0	58.26	31.03	136.0	20.42
2600.0	54.27	19.54	138.0	20.91
3000.0	63.84	27.16	140.0	21.47









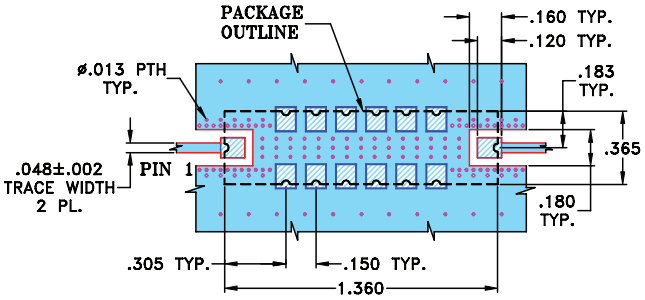
Notes

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

Pad Connections

INPUT	1
OUTPUT	8
GROUND	2-7,9-4

Demo Board MCL P/N: TB-363+
Suggested PCB Layout (PL-227)



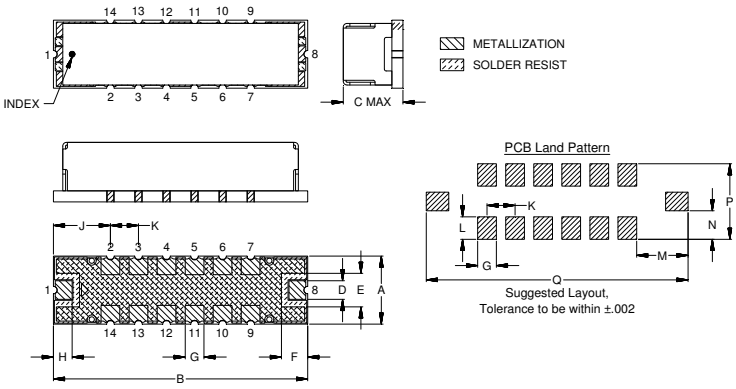
NOTE:

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 SOLDERMASK

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H
.365	**1.360**	**.35**	**.100**	**.180**	**.140**	**.100**	**.100**
9.27	34.54	8.89	2.54	4.57	3.56	2.54	2.54

J	K	L	M	N	P	Q	Wt.
.305	**.150**	**.120**	**.275**	**.152**	**.405**	**1.400**	grams
7.75	3.81	3.05	6.99	3.86	10.29	35.56	4.0

Note: Please refer to case style drawing for details