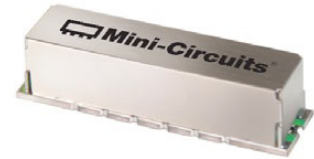


# Surface Mount Bandpass Filter

## BPF-A950+

50Ω 700 to 1200 MHz



Generic photo used for illustration purposes only  
CASE STYLE: HQ1157

### The Big Deal

- Wide bandwidth
- Better rejection
- Miniature shielded package

### Product Overview

The BPF-A950+ is a 50Ω bandpass filter fabricated using SMT technology. This bandpass filter covers from 700-1200 MHz. This filter is built with high Q capacitors and air-coil inductors for superior performance. This filter is developed for square kilometer array telescope systems for radio astronomy. It has repeatable performance across lots and consistent performance across temperature.

### Key Features

Feature	Advantages
Low insertion loss	Can be used in high performance applications such as radio astronomy.
Good rejection	This enables the filter to attenuate spurious signals and reject harmonics for broad frequency band.
Shielded case	Reduced interference with and from the surrounding components.

#### 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.  
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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](http://www.minicircuits.com/MCLStore/terms.jsp)



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### Features

- Wide bandwidth
- Better rejection
- Miniature shielded package

### Applications

- Radio telescope applications
- Aeronautical radio navigation
- Defense systems
- Private and public land mobile

### Electrical Specifications at 25°C

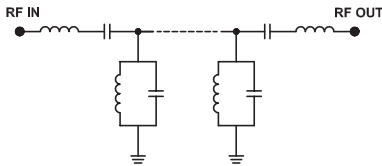
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Center Frequency	—	—	950	—	MHz	
	Insertion Loss	F1-F2	700-1200	—	2.0	4.0	dB
	VSWR	F1-F2	700-1200	—	1.5	1.9	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-620	20	30	—	dB
	VSWR	DC-F3	DC-620	—	11	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	1310-2600	20	30	—	dB
	VSWR	F4-F5	1310-2600	—	11	—	:1

### Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	1 W

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

### Functional Schematic



### Typical Frequency Response

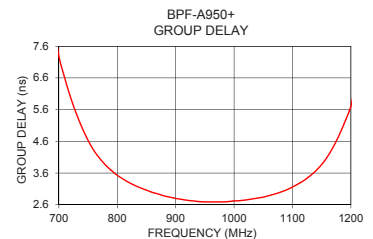
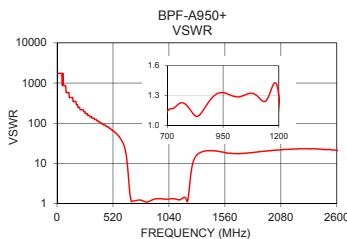
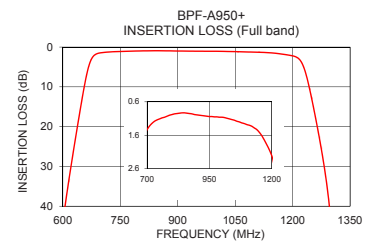
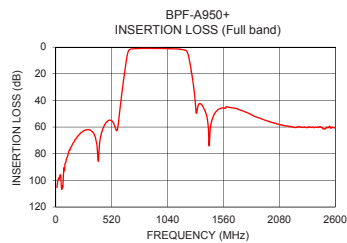


### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
10	105.32	1737.18	700	7.29
450	58.94	86.86	730	5.47
620	30.79	28.96	760	4.31
645	15.97	14.87	790	3.68
660	7.94	6.15	810	3.41
670	4.11	2.87	830	3.21
680	2.26	1.56	850	3.06
700	1.43	1.14	880	2.88
810	0.96	1.14	910	2.77
950	1.04	1.33	930	2.72
1140	1.43	1.24	950	2.69
1200	2.21	1.30	980	2.69
1230	5.35	2.50	1010	2.73
1245	10.85	5.72	1040	2.81
1270	23.00	11.93	1070	2.94
1310	49.59	17.22	1100	3.16
1350	42.70	19.54	1130	3.51
1900	53.32	19.76	1160	4.12
2500	61.18	22.29	1180	4.80
2600	60.54	21.20	1200	5.71

### +RoHS Compliant

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



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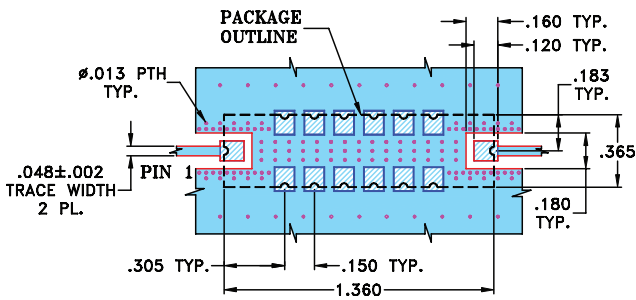
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REV.B  
M174392  
BPF-A950+  
EDU1655  
URJ  
190627  
Page 2 of 3

## Pad Connections

INPUT	1
OUTPUT	8
GROUND	2-7,9-14

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

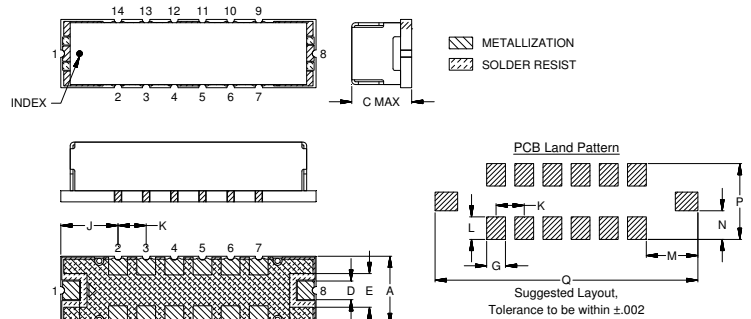


**NOTE:**

- 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.
- 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

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