

# Surface Mount Low Pass Filter

## LPF-B50+

50Ω DC to 50 MHz

### The Big Deal

- Good passband Insertion loss, 0.8 dB typical
- High rejection, 50 dB from 70-2000 MHz
- Fast roll-off
- Miniature shielded package



CASE STYLE: HZ1198

### Product Overview

The LPF-B50+ is a lowpass filter in a shielded package (size of 0.472" x 0.826" x .22") fabricated using SMT technology. Covering DC-50 MHz band width, these units offer good matching within the passband and high rejection. This unit uses a miniature high Q capacitors and wire welded inductors for high reliability. In addition it has repeatable performance across production lots and consistent performance across temperature.

### Key Features

Feature	Advantages
Low frequency and good passband Insertion loss, 0.8 dB typical	Low insertion loss will be used in designs optimized for high performance applications.
Fast roll-off	Fast roll-off, this will attenuate frequencies closer to the passband with good rejection value of 72 dB.
Good ultimate rejection	This enables the filters to attenuate spurious signals and reject harmonics for broadband frequency.

#### 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.  
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CASE STYLE: HZ1198

## Features

- High rejection, 36 dB typical
- Sharp insertion loss roll-off
- Shielded case
- Aqueous washable

## Applications

- Defence communications
- Transmitters / receivers
- Harmonic rejection

## Electrical Specifications at 25°C

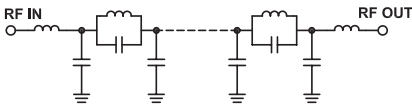
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-50	—	0.8	2	dB
	Freq. Cut-Off	F2	55	—	3.5	—	dB
	VSWR	DC-F1	DC-50	—	1.2	1.5	:1
Stop Band	Rejection Loss	F3-F4	65-3300	20	36	—	dB
	VSWR	F3-F4	65-3300	—	18	—	:1

## Maximum Ratings

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

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

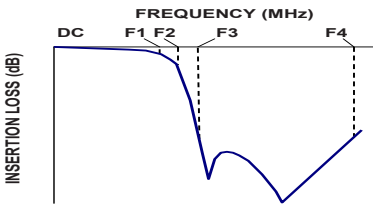
## Functional Schematic



## Typical Performance Data at 25°C

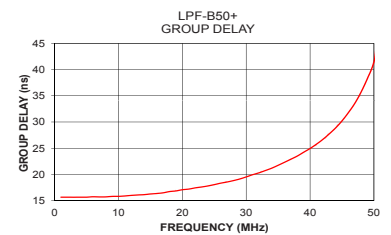
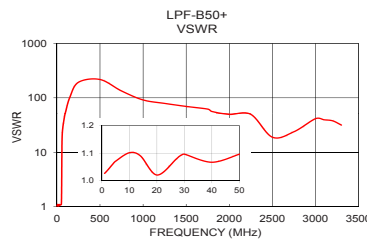
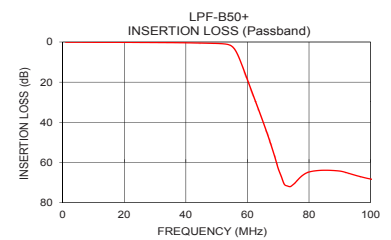
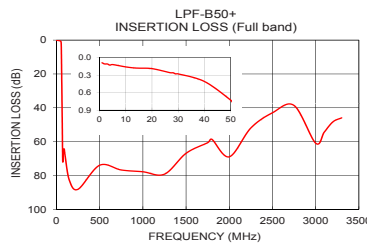
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1.0	0.09	1.03	1.00	15.67
14.0	0.18	1.09	5.00	15.67
30.0	0.28	1.10	10.00	15.83
40.0	0.41	1.07	13.00	16.09
50.0	0.73	1.10	15.00	16.28
54.0	1.40	1.50	18.00	16.74
55.0	2.21	2.14	20.00	17.09
56.0	3.95	3.57	23.00	17.61
57.0	6.86	6.30	25.00	18.06
59.0	14.69	14.03	28.00	18.83
62.0	27.08	21.20	30.00	19.53
65.0	39.46	24.83	33.00	20.75
71.0	67.01	30.49	35.00	21.75
75.0	70.91	33.42	38.00	23.51
100.0	68.31	54.29	40.00	24.95
500.0	73.95	217.15	43.00	27.73
1500.0	66.89	69.49	45.00	30.21
2000.0	68.96	49.64	47.00	33.54
3000.0	60.90	41.37	48.00	35.73
3300.0	45.95	31.60	50.00	41.43

## Typical Frequency Response



### +RoHS Compliant

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



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