Surface Mount

Bandpass Filter

BPF-F184+

50Ω 154.32 to 214.32 MHz

Generic photo used for illustration purposes only
CASE STYLE: HP1156

The Big Deal

- Broad bandwidth
- High Rejection
- Good VSWR
- Miniature shielded package

Product Overview

BPF-F184+ is a 50Ω bandpass filter in a shielded package fabricated using SMT technology. This bandpass filter covers from 154.32 to 214.32 MHz. This is broad filter and finds extensive application in television networks.

Key Features

Feature	Advantages
Low insertion loss	Broad bandwidth and it can be used in television networks.
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-F184+ to used in compact design

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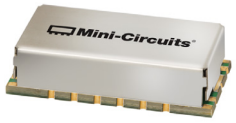


Generic photo used for illustration purposes only

CASE STYLE: HP1156

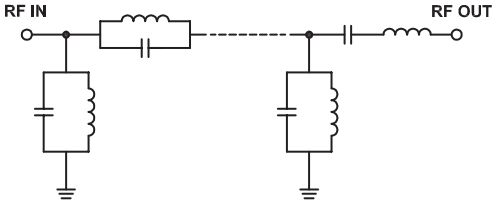
Features

- Broad bandwidth
- High rejection
- Miniature shielded package

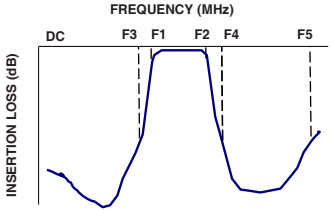
Applications

- Digital television networks
- Biomedical telemetry devise
- Wireless microphone
- Test and measurement

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	—	—	—	184	—	MHz
	Insertion Loss	F1-F2	154.32- 214.32	—	1.90	3.00	dB
	VSWR	F1-F2	154.32 - 214.32	—	1.43	1.92	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC - 139	20	30	—	dB
	VSWR	DC-F3	DC - 139	—	20	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	242 - 2800	20	27	—	dB
	VSWR	F4-F5	242 - 2800	—	20	—	:1

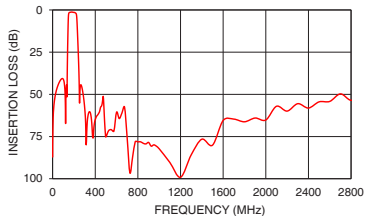
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	2 W

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

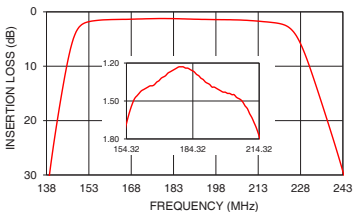
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1.00	77.68	1737.18	154.32	30.64
50.00	44.73	289.53	155.00	28.90
100.00	41.04	144.77	156.00	26.81
139.00	30.13	32.18	158.00	23.67
140.00	26.26	28.49	160.00	21.41
141.00	22.71	24.48	164.00	18.31
142.00	19.38	20.45	168.00	16.42
145.00	10.40	8.81	173.00	15.12
149.00	3.20	2.02	178.00	14.40
154.32	1.68	1.08	184.00	13.82
184.00	1.26	1.15	188.00	13.57
214.32	1.78	1.28	193.00	13.52
225.00	3.38	2.45	198.00	13.88
233.00	12.82	15.53	202.00	14.50
238.00	20.82	29.96	205.00	15.13
242.00	27.56	40.41	208.00	15.87
244.00	31.21	45.72	210.00	16.44
500.00	75.22	115.81	212.00	17.13
1800.00	66.26	82.73	214.00	17.99
2800.00	53.53	29.46	214.32	18.17

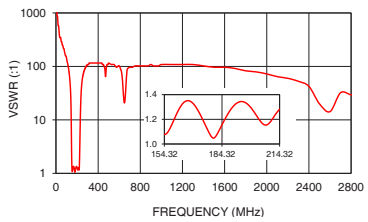
BPF-F184+
INSERTION LOSS (Full band)



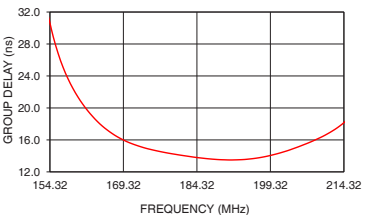
BPF-F184+
INSERTION LOSS (Pass band)



BPF-F184+
VSWR



BPF-F184+
GROUP DELAY



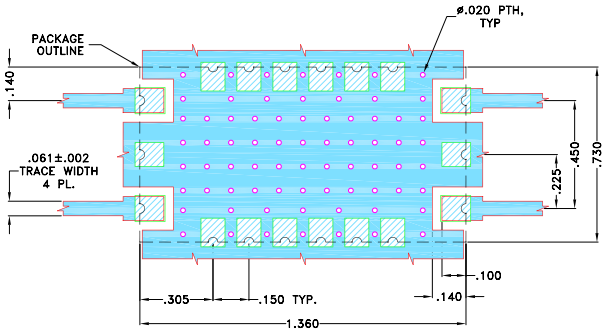
Notes

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

Pad Connections

INPUT	2
OUTPUT	11
GROUND	1,3,4,5,6,7,8,10,12,13,14,15,16,17
NO CONNECTION	9,18

Demo Board MCL P/N: TB-695+
Suggested PCB Layout (PL-418)

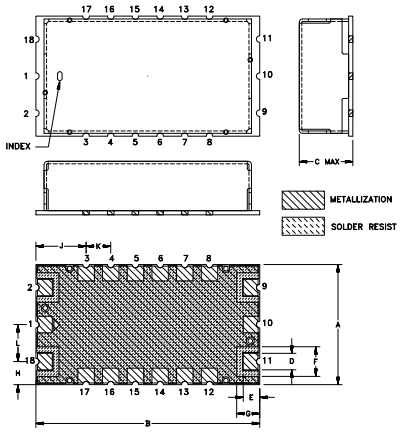


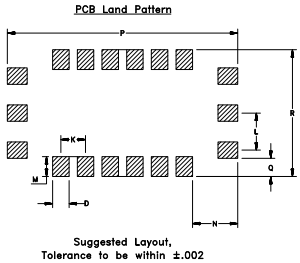
NOTES:
1. TRACE WIDTH IS SHOWN FOR OAK-602, WITH DIELECTRIC THICKNESS .022"±.0015". COPPER: 1/2 Oz. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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	J
.730	**1.360**	**.350**	**.100**	**.100**	**.180**	**.140**	**.140**	**.305**
18.54	34.54	8.89	2.54	2.54	4.57	3.56	3.56	7.75

K	L	M	N	P	Q	R	Wt.
.150	**.225**	**.120**	**.275**	**1.400**	**.110**	**.770**	grams
3.81	5.72	3.05	6.99	35.56	2.79	19.56	6.0

Note: Please refer to case style drawing for details