Surface Mount

Bandpass Filter

BPF-BD1800+

50Ω 1600 to 2000 MHz

Generic photo used for illustration purposes only
CASE STYLE: TV2849

The Big Deal

- Wide bandwidth
- Rejection upto 2xF_c
- Miniature shielded package

Product Overview

The BPF-BD1800+ is a 50Ω bandpass filter fabricated using SMT technology. This bandpass filter covers from 1600-2000 MHz. This filter is built with high Q capacitors and air-coil inductors for superior performance. 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	Rejection upto 2xF_c. 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
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Features

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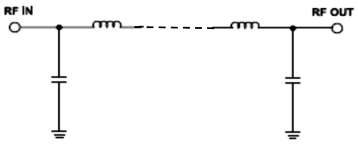
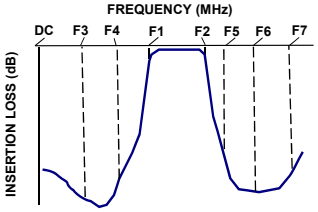
Applications

- Radio telescope applications
- Public cellular networks
- International mobile telecommunication
- Weather instruments / Radar / Satellite
- Transmitters / Receivers
- Harmonic rejection / Industrial applications

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

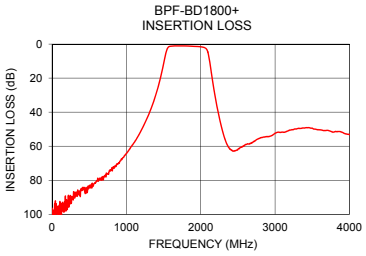
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	—	1800	—	MHz
	Insertion Loss	F1-F2	1600 - 2000	—	1.7	3.0	dB
	VSWR	F1-F2	1600 - 2000	—	1.67	2.0	:1
Stop Band, Lower	Rejection	DC-F3	DC - 1000	50	60	—	dB
		F3-F4	1000 - 1400	20	25	—	dB
Stop Band, Upper	Rejection	F5-F6	2200 - 2400	20	25	—	dB
		F6-F7	2400 - 4000	35	45	—	dB

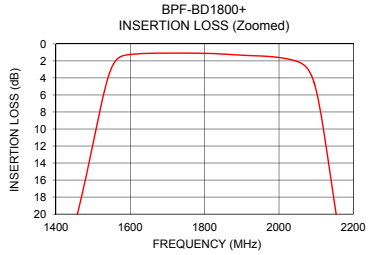
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	1 W

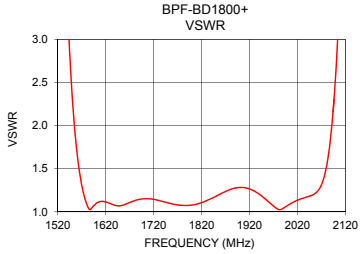
Permanent damage may occur if any of these limits are exceeded.

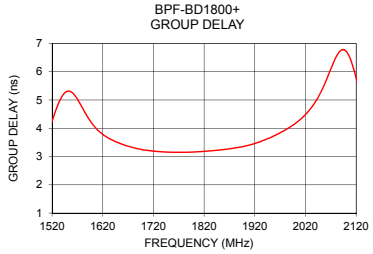
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	101.08	191.20	1600	4.14
100	104.21	979.89	1620	3.78
300	88.33	669.45	1640	3.57
500	83.33	261.65	1660	3.42
1000	64.18	88.70	1680	3.31
1400	29.23	43.77	1700	3.24
1454	20.64	30.71	1720	3.19
1546	3.19	2.72	1740	3.16
1600	1.24	1.10	1760	3.15
1800	1.11	1.08	1780	3.15
2000	1.60	1.08	1800	3.16
2080	3.11	1.51	1820	3.18
2154	20.10	12.18	1840	3.21
2194	30.78	19.54	1860	3.25
2200	32.26	20.48	1880	3.30
2400	62.00	39.98	1900	3.36
3000	52.47	47.46	1920	3.46
3300	49.70	47.44	1940	3.59
3500	49.42	46.39	1960	3.75
4000	53.22	50.64	2000	4.17









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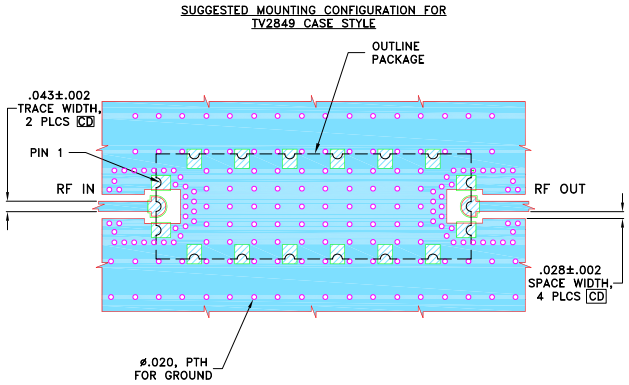
Pad Connections

INPUT	2
OUTPUT	11
GROUND	1, 3-10, 12-18

Demo Board MCL P/N: TB-1108+
Suggested PCB Layout (PL-640)



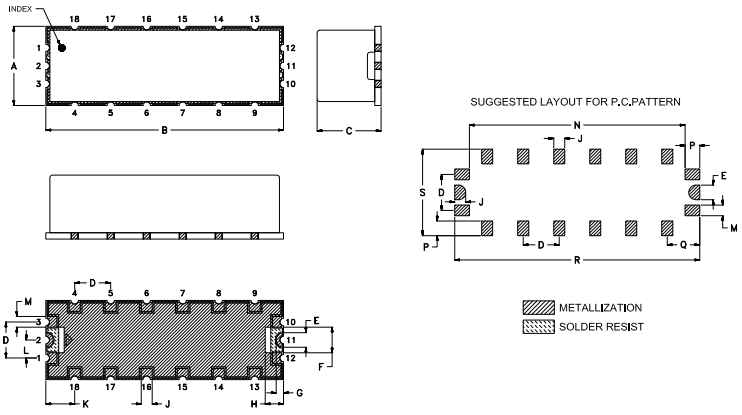
NOTES:

1. TRACE WIDTH IS SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .020"±.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	K
.433	**1.299**	**.350**	**.197**	**.079**	**.140**	**.040**	**.100**	**.060**	**.157**
11.00	33.00	8.89	5.00	2.02	3.56	1.02	2.54	1.52	4.00

L	M	N	P	Q	R	S	Wt.
.098	**.058**	**1.179**	**.080**	**.177**	**1.339**	**.473**	grams
2.50	1.48	29.95	2.03	4.51	34.02	12.02	4

Note: Please refer to case style drawing for details

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