Surface Mount

Bandpass Filter

BPF-BD1400+

50Ω 1200 to 1600 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-BD1400+ is a 50Ω bandpass filter fabricated using SMT technology. This bandpass filter covers from 1200-1600 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.

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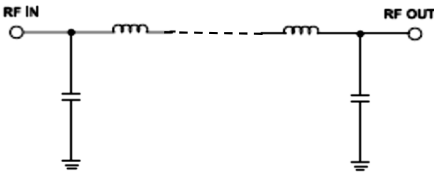
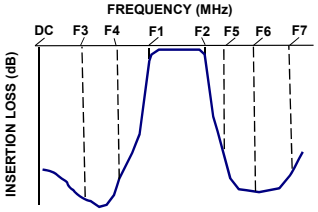
Applications

- Radio telescope applications
- Public cellular networks
- International mobile telecommunication
- Weather instruments / Radar / Satellite
- Transmitter / 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

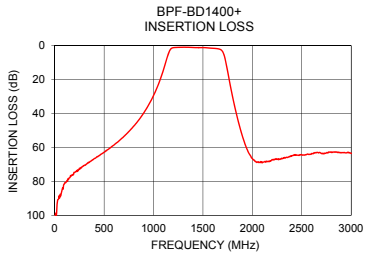
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	—	1400	—	MHz
	Insertion Loss	F1-F2	1200 - 1600	—	1.5	3.0	dB
	VSWR	F1-F2	1200 - 1600	—	1.67	2.0	:1
Stop Band, Lower	Rejection	DC-F3	DC - 700	40	50	—	dB
		F3-F4	700 - 1000	20	25	—	dB
Stop Band, Upper	Rejection	F5-F6	1800 - 2200	20	25	—	dB
		F6-F7	2200 - 3000	40	60	—	dB

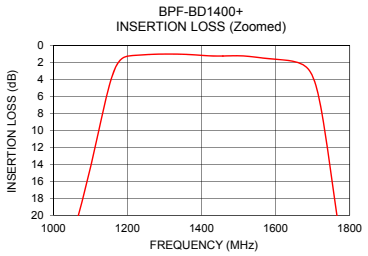
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	1 W

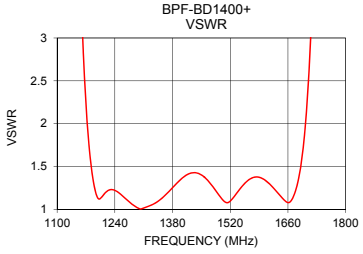
Permanent damage may occur if any of these limits are exceeded.

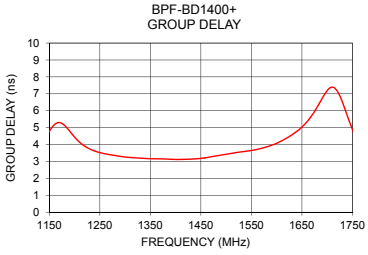
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	104.35	182.16	1200	4.44
100	81.08	559.87	1220	3.91
700	53.62	80.79	1240	3.61
995	30.09	50.64	1260	3.46
1000	29.48	49.66	1280	3.35
1068	19.96	35.51	1300	3.26
1163	3.07	2.89	1320	3.21
1200	1.26	1.12	1340	3.18
1400	1.16	1.35	1360	3.16
1500	1.21	1.12	1380	3.14
1600	1.62	1.35	1400	3.12
1691	2.95	1.50	1420	3.13
1765	19.94	10.88	1440	3.15
1800	30.21	16.17	1460	3.22
1900	53.51	28.69	1480	3.32
2000	66.66	39.76	1500	3.42
2200	67.22	57.06	1520	3.52
2600	63.63	72.44	1540	3.60
2900	63.19	57.26	1560	3.71
3000	63.61	52.23	1600	4.07









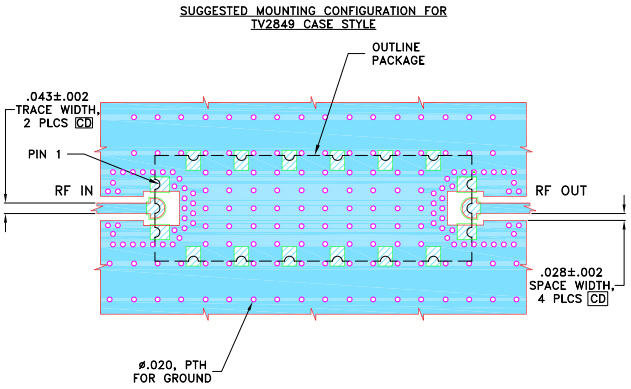
Notes

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, 3-10, 12-18

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



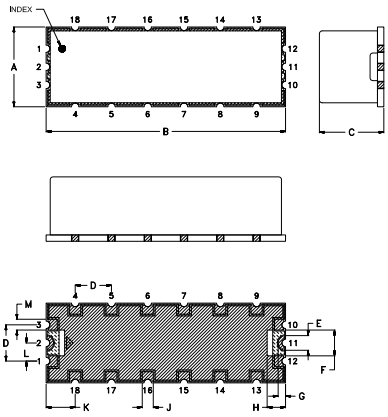
NOTES:

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