Surface Mount

Bandpass Filter

BPF-E16+

50Ω 2 to 30 MHz

CASE STYLE: HR1176

The Big Deal

- Low isertion loss (1 dB typical)
- Good VSWR (1.4:1 typical)
- High rejection
- Fast roll-off

Product Overview

The BPF-E16+ is a 50Ω band pass filter in a shielded package (size of 1.20" x 1.20" x 0.370") fabricated using SMT technology. These units offer good matching within the pass band and high rejection. This unit has 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
Sharp shape factor	Sharp shape factor helps in adjacent channel rejection and increased selectivity.
Good VSWR, 1.4:1 typical in passband	The BPF-E16+ has very good return loss which provides good matching when used with other devices.
More than 40dB rejection up to 500MHz	This enables the filter to attenuate spurious signals and reject harmonics for broad band of frequency.
Shielded case	Reduced interference with and from the surrounding components.

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CASE STYLE: HR1176
PRICE: $19.95 ea. QTY (1-4)

Features

- Excellent VSWR, 1.4:1 typical in passband
- High rejection
- Sharp insertion loss roll off
- Shielded case
- Aqueous washable

Applications

- Harmonic rejection
- Transmitters / receivers
- Lab use

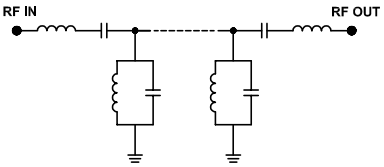
Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	—	16	—	MHz
	Insertion Loss	F1-F2	2-30	—	1.5	3.0	dB
	VSWR	F1-F2	2-30	—	1.4	1.9	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-1.4	20	40	—	dB
	VSWR	DC-F3	DC-1.4	—	21	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	35-500	20	32	—	dB
	VSWR	F4-F5	35-500	—	22	—	:1

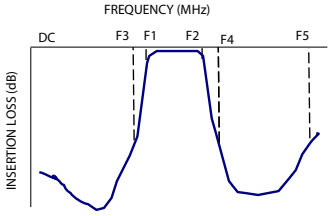
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W max.

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

Functional Schematic



Typical Frequency Response

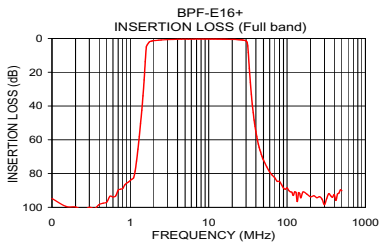


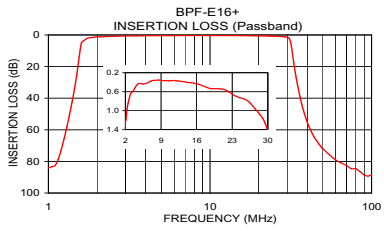
Typical Performance Data at 25°C

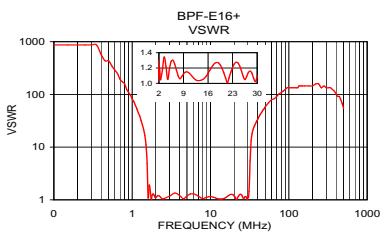
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
0.10	89.63	868.59	2	1325.56
1.20	72.57	44.55	4	269.01
1.40	41.88	21.46	6	146.43
1.50	23.78	11.03	8	108.69
1.55	12.95	4.88	10	91.88
1.60	4.84	1.10	11	87.19
1.70	2.58	1.49	12	84.03
2.00	1.25	1.09	13	81.77
3.00	0.70	1.18	14	80.25
16.00	0.49	1.13	15	79.26
25.00	0.81	1.23	16	78.69
30.00	1.47	1.09	17	78.29
31.00	2.29	1.44	18	78.21
31.50	4.11	2.65	20	80.84
32.00	7.86	5.47	22	84.77
33.00	17.29	13.29	24	89.39
35.00	32.63	21.73	25	94.14
40.00	54.55	33.42	26	100.52
200.00	91.51	144.77	28	116.42
500.00	93.56	54.29	30	156.93

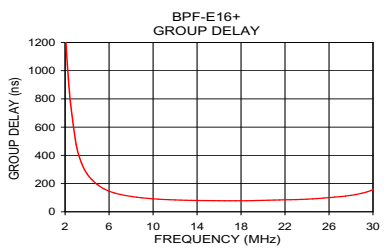
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.









For detailed performance specs & shopping online see web site

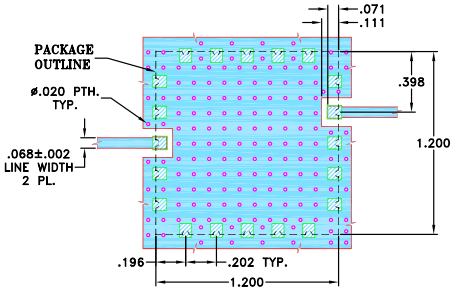
Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. **2.** Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. **3.** The parts covered by this specification sheet 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.

REV. OR
M130738
BPF-E16+
EDR-8470/3U
RAV/URJ/NY
110720

Pad Connections

INPUT	18
OUTPUT	9
GROUND	1-8, 10-17, 19-,20

Demo Board MCL P/N: TB-573+
Suggested PCB Layout (PL-329)

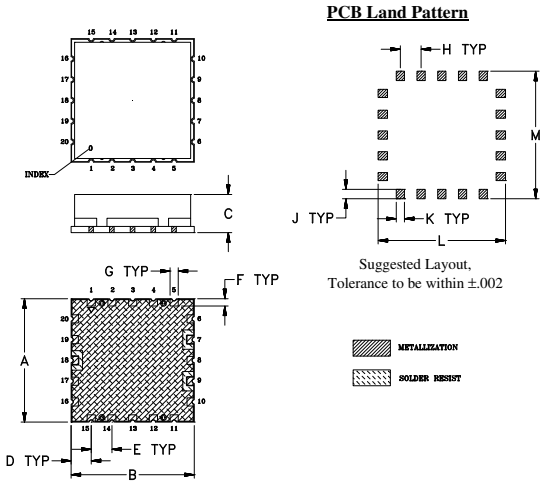


NOTES:
1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030"±.003". COPPER: 1/2 OZ. EACH SIDE.
   FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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
1.200	1.200	.370	.196	.202	.071	.079
30.48	30.48	9.40	4.98	5.13	1.80	2.01

H	J	K	L	M	wt
.202	.091	.079	1.240	1.240	grams
5.13	2.31	2.01	31.50	31.50	8.5