Surface Mount

Bandpass Filter

BPF-C70+

50Ω 69.5 to 70.5 MHz

CASE STYLE: HU1186

The Big Deal

- Narrow bandwidth of 1.43% fractional BW
- High rejection of 50 dB min. from 80-1000 MHz
- Good VSWR 1.3:1 typical in passband
- Miniature shielded package

Product Overview

The BPF-C70+ is a narrow band bandpass filter is a shield package (size of 0.87" x 0.80" x 0.25") fabricated using SMT technology. It has more than 50 dB rejection up to 1000 MHz. This unit uses a miniature high Q capacitors and wire welded induction for high reliability.

Key Features

Feature	Advantages
Narrow bandwidth of (1.43 % fractional BW)	Narrow bandwidth helps in adjacent channel rejection and in created selectivity.
High rejection, 50dB Min. from 80-1000MHz	Achieving 50 dB Rejection over 80-1000 MHz. This design provides good performance in rejecting harmonics and sub-harmonics.
Shielded case	Reduced interference with the surrounding components.

Surface Mount

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BPF-C70+

CASE STYLE: HU1186
PRICE: $39.95 ea. QTY (1-9)

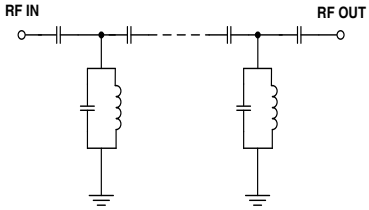
Features

- Good VSWR, 1.3:1 typical in passband
- Sharp insertion roll-off
- Aqueous washable
- Miniature shield package

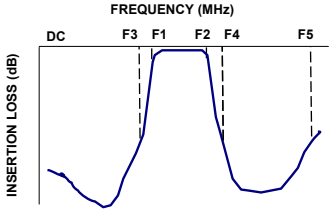
Applications

- Military hi-rel systems
- High rejection application
- Image rejection
- IF signal processing

Functional Schematic



Typical Frequency Response



+ 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.

Electrical Specifications at 25°C

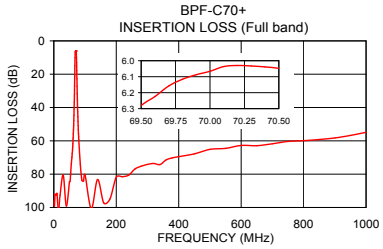
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	-	70	-	MHz
	Insertion Loss	F1-F2	69.5-70.5	-	6.4	8	dB
	VSWR	F1-F2	69.5-70.5	-	1.3	1.7	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-66	20	28	-	dB
	VSWR	DC-F3	DC-66	-	9	-	:1
Stop Band, Upper	Insertion Loss	F4-F5	75-1000	20	31	-	dB
	VSWR	F4-F5	75-1000	-	8	-	:1

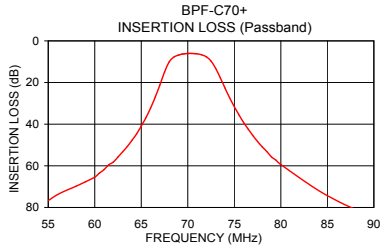
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	80 mW max.

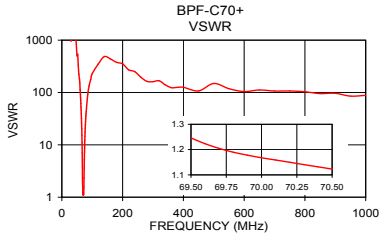
Permanent damage may occur if any of these limits are exceeded.

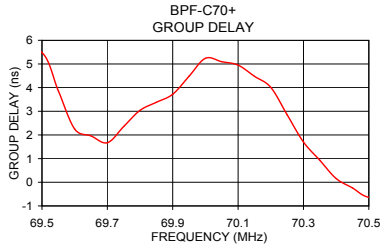
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1.0	95.83	2471.84	69.5	5.48
10.0	91.61	1844.81	69.6	3.87
50.0	84.69	500.90	69.6	2.25
60.0	65.44	114.85	69.7	1.96
66.0	32.23	15.29	69.7	1.67
67.5	14.99	3.91	69.8	2.36
69.5	6.28	1.25	69.8	3.04
70.0	6.07	1.17	69.9	3.38
70.5	6.05	1.12	69.9	3.72
73.0	13.22	2.33	70.0	4.48
75.0	31.62	9.45	70.0	5.24
80.0	59.41	42.67	70.1	5.10
100.0	80.41	229.35	70.1	4.95
260.0	76.89	195.95	70.2	4.01
400.0	69.51	125.98	70.3	2.86
500.0	65.13	148.72	70.3	1.70
750.0	60.37	106.87	70.4	0.93
800.0	59.92	103.36	70.4	0.16
900.0	58.25	96.53	70.5	-0.24
1000.0	54.88	88.22	70.5	-0.64









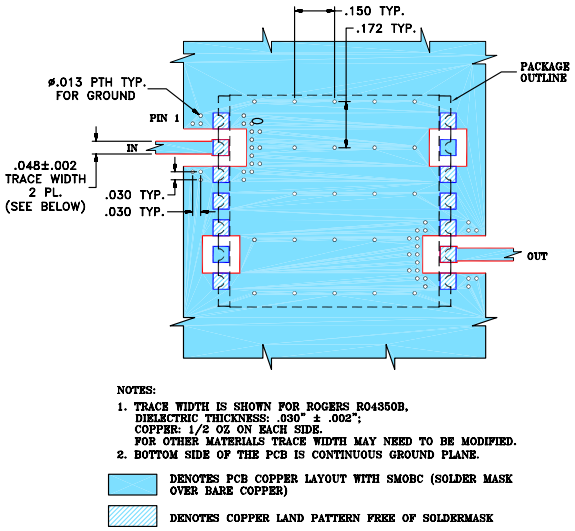
Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. **2.** Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established 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
M131669
BPF-C70+.
EDR-10148U
URJ
110718

Pad Connections

INPUT	2
OUTPUT	9
NOT CONNECTED	6 &13
GROUND	1,3,4,5,7,8,10,11,12,14

Demo Board MCL P/N: TB-500+
Suggested PCB Layout (PL-294)

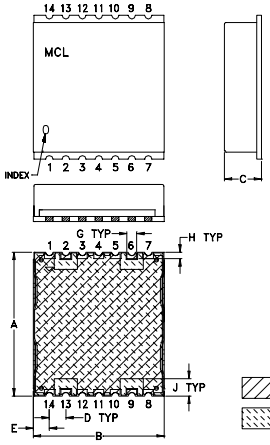


NOTES:
1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B, DIELECTRIC THICKNESS: .030" ± .002"; COPPER: 1/2 OZ ON EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

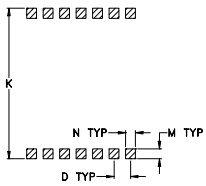
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

Outline Drawing



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H
.870	.800	.25	.100	.097	--	.060	.040
22.10	20.32	6.35	2.54	2.46	--	1.52	1.02

J	K	L	M	N	P	wt
.105	.910	--	.060	.060	--	grams
2.67	23.11	--	1.52	1.52	--	2.85