

Surface Mount Bandpass Filter

BPF-C45+

50Ω 30 to 70 MHz

Maximum Ratings

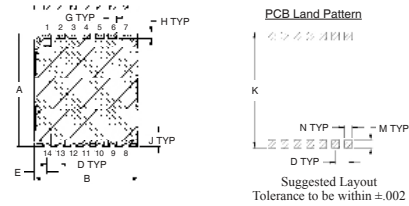
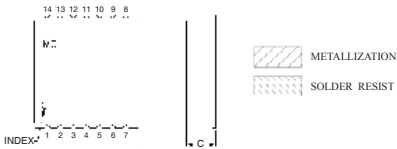
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W Max.

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

Pin Connections

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

Outline Drawing

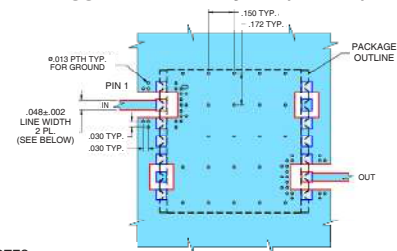


Outline Dimensions (inch/mm)

A	B	C	D	E	G	H	J	K	M	N	wt.
.870	.800	.25	.100	.097	.060	.040	.105	.910	.060	.060	grams
22.10	20.32	6.35	2.54	2.46	1.52	1.02	2.67	23.11	1.52	1.52	2.85

Note: Please refer to case style drawing for details

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



NOTES:

- TRACE WIDTH IS SHOWN FOR ROGERS R04350B. DIELECTRIC THICKNESS: .030"±.002"; COPPER: 1/2 OZ EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- 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 SOLDER MASK

Features

- High Rejection
- Good VSWR, 1.2:1 Typ @ Passband
- Shielded case
- Aqueous washable

Applications

- Military communications
- Receivers / Transmitters
- Harmonic rejection



Generic photo used for illustration purposes only
CASE STYLE: HU1186

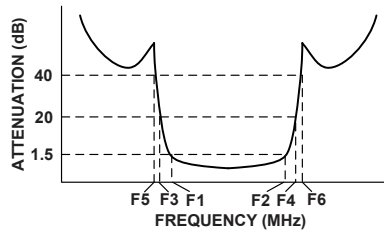
+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

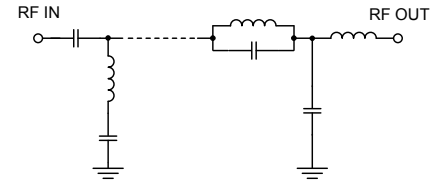
Bandpass Filter Electrical Specifications (T_{AMB} = 25°C)

CENTER FREQ. (MHz)	PASSBAND (MHz) (Loss < 1.5dB)	STOPBANDS (MHz)				VSWR (:1)		
		Loss > 20dB		Loss > 40dB		Passband		Stopband
F _c	F ₁ - F ₂	F ₃	F ₄	F ₅	F ₆	Typ.	Max.	Typ.
45	30 - 70	23	95	21	120 - 2500	1.2	1.5	18

Typical Frequency Response

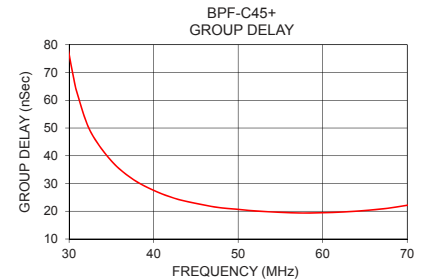
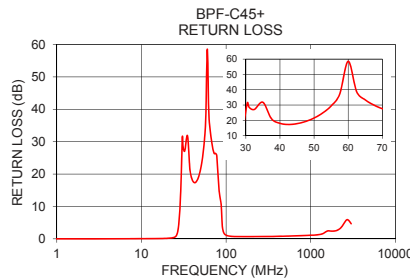
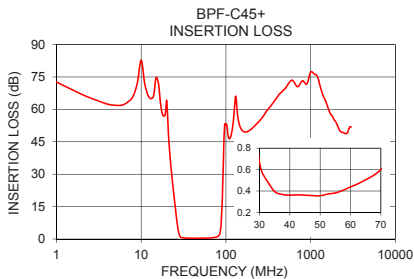


Functional Schematic



Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Frequency (MHz)	Group Delay (nSec)
	\bar{x}	σ		
0.5	78.80	1.42	30.0	76.63
5.0	61.88	0.25	30.5	68.58
23.0	29.29	1.18	31.0	62.06
26.0	10.40	1.15	35.0	38.15
27.0	5.46	1.00	37.5	31.64
29.0	1.02	0.21	40.0	27.53
30.0	0.67	0.05	42.5	24.63
40.0	0.36	0.03	45.0	22.83
45.0	0.36	0.03	47.5	21.42
60.0	0.44	0.03	50.0	20.68
70.0	0.60	0.02	52.5	19.99
80.0	1.18	0.13	55.0	19.62
87.5	6.28	4.17	57.5	19.36
90.0	15.44	6.96	60.0	19.46
95.0	47.02	8.60	62.5	19.74
120.0	51.78	3.04	65.0	20.27
500.0	69.64	3.27	67.5	21.00
2500.0	49.02	1.51	70.0	22.16



Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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