

# Surface Mount Bandpass Filter

50Ω 105 to 180 MHz

## Maximum Ratings

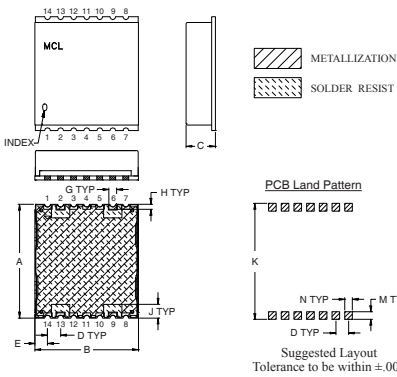
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W Max.

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

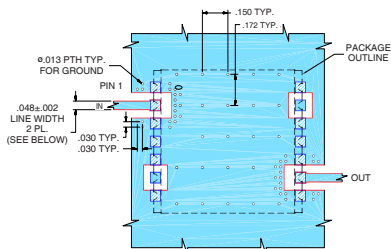


## Outline Dimensions (inch/mm)

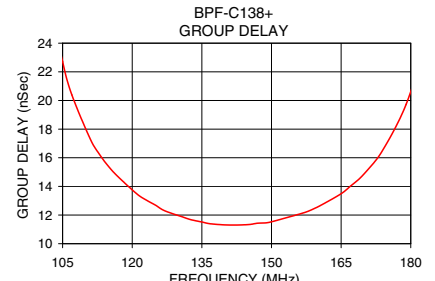
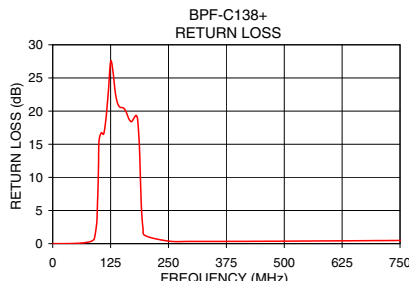
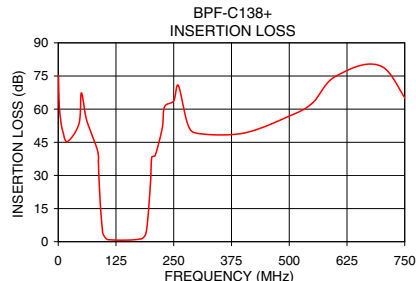
	A	B	C	D	E	G	H	J	K	M	N	wt.
	.870	.800	.25	.100	.097	.060	.040	.105	.910	.060	.060	grams
	22.10	20.32	6.35	2.54	2.46	1.52	1.02	2.67	23.11	1.52	1.52	2.85

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 RO4350B, 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.
- Legend:
- Blue area: DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
  - Light blue area: DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK



- 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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# BPF-C138+



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

## Features

- High rejection
- Good VSWR, 1.3:1 typ @ passband
- Shielded case
- Aqueous washable

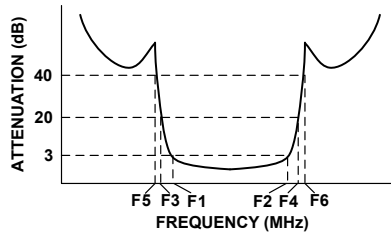
## Applications

- Receivers / transmitters
- Wireless communication systems

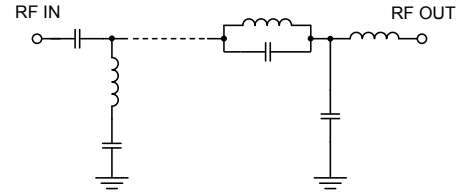
## Bandpass Filter Electrical Specifications (T<sub>AMB</sub> = 25°C)

CENTER FREQ. (MHz)	PASSBAND (MHz) (Loss < 3dB)	STOPBANDS (MHz)				VSWR (:1)		
		Loss > 20dB		Loss > 40dB		Passband		Stopband
F <sub>c</sub>	F <sub>1</sub> - F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>	F <sub>5</sub>	F <sub>6</sub>	Typ.	Max.	Typ.
138	105 - 180	87	201	70	220 - 750	1.3	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)
	$\bar{x}$	$\sigma$			
0.5	75.17	2.99	0.00	105.0	22.71
70.0	50.00	1.11	0.15	110.0	17.94
87.0	35.58	4.91	0.53	115.0	15.36
90.0	20.97	2.27	0.79	120.0	13.76
93.0	11.31	1.32	1.56	125.0	12.69
95.0	6.55	0.86	3.07	130.0	11.93
97.0	3.52	0.43	6.44	135.0	11.52
99.0	2.09	0.16	12.18	138.0	11.35
105.0	1.19	0.02	16.74	140.0	11.32
138.0	0.70	0.02	21.71	145.0	11.34
180.0	1.38	0.05	19.36	150.0	11.58
188.0	2.62	0.20	12.94	155.0	11.95
192.0	6.52	0.76	4.97	160.0	12.56
195.0	12.89	1.09	2.34	162.0	12.88
200.0	27.70	1.49	1.21	168.0	14.24
201.0	31.52	1.70	1.12	170.0	14.86
220.0	45.26	1.10	0.58	175.0	17.10
750.0	73.96	8.40	0.48	180.0	20.64