

# Surface Mount Bandpass Filter

50Ω 560 to 780 MHz

## Maximum Ratings

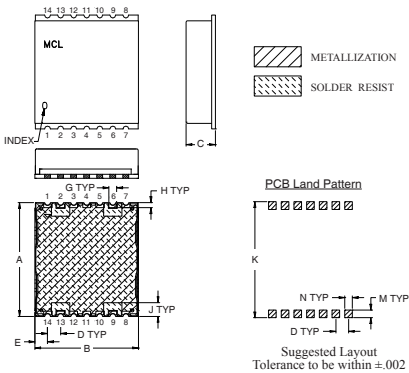
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W Max.

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

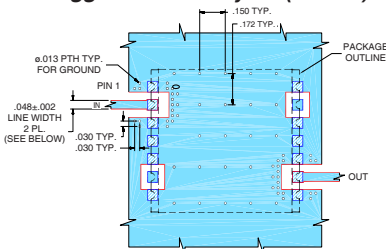


## Outline Dimensions (inch/mm)

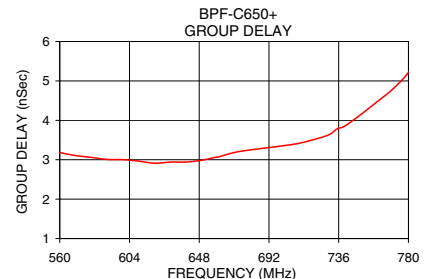
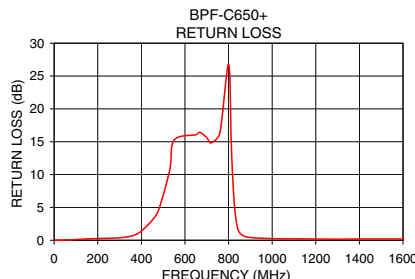
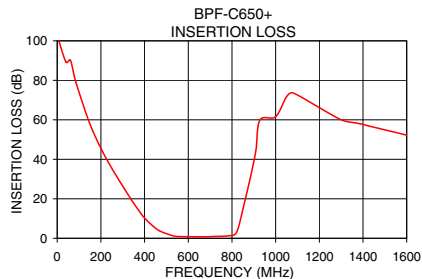
A	B	C	D	E	G	H	J	K	M	N	wt.
.870	.800	.25	.100	.097	.060	.040	.105	.910	.060	.060	grams
22.10	20.32	6.35	2.54	2.46	1.52	1.02	2.67	23.11	1.52	1.52	2.85

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.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
  - 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.
  - The parts covered by this specification document are subject to Mini-Circuit's 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-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)



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# BPF-C650+



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

- Flat group delay
- High rejection
- Shielded case
- Aqueous washable

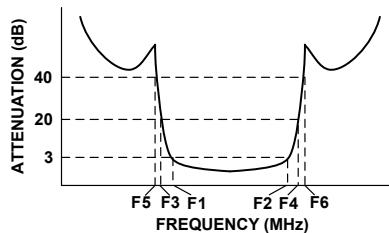
## Applications

- Receivers / transmitters
- Wireless communication systems

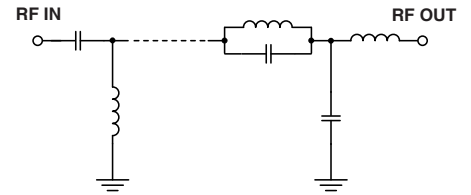
## Bandpass Filter Electrical Specifications (T<sub>AMB</sub> = 25°C)

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.
650	560 - 780	280	890	185	920 - 1600	1.4	1.8	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)
	$\bar{x}$	$\sigma$			
2.0	101.98	9.04	0.00	560.0	3.18
100.0	74.01	0.79	0.11	570.0	3.11
185.0	48.87	0.16	0.24	580.0	3.06
280.0	29.90	0.14	0.35	600.0	3.00
340.0	19.49	0.15	0.54	610.0	2.96
400.0	10.25	0.17	1.40	630.0	2.94
450.0	5.12	0.09	3.06	640.0	2.94
500.0	2.23	0.06	6.40	650.0	2.99
520.0	1.53	0.05	8.96	660.0	3.07
560.0	0.82	0.01	17.93	680.0	3.25
650.0	0.75	0.02	16.06	700.0	3.35
780.0	1.16	0.04	19.23	710.0	3.41
820.0	2.80	0.14	8.88	720.0	3.51
830.0	5.62	0.24	4.20	730.0	3.64
847.0	13.23	0.39	1.37	740.0	3.86
890.0	33.65	0.40	0.47	750.0	4.15
920.0	51.96	0.95	0.36	770.0	4.79
1600.0	53.63	1.11	0.19	780.0	5.21