

# Bandpass Filter

## BPF-A113+

**50Ω 108 to 118 MHz**

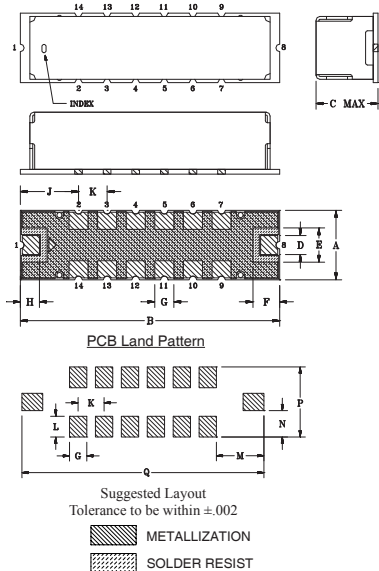
### Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| 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

|        |                              |
|--------|------------------------------|
| RF IN  | 1                            |
| RF OUT | 8                            |
| GROUND | 2,3,4,5,6,7,9,10,11,12,13,14 |

### Outline Drawing



### Outline Dimensions (inch/mm)

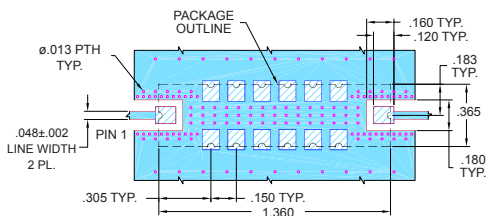
| A    | B     | C    | D    | E    | F    | G    | H    |
|------|-------|------|------|------|------|------|------|
| .365 | 1.360 | .35  | .100 | .180 | .140 | .100 | .100 |
| 9.27 | 34.54 | 8.89 | 2.54 | 4.57 | 3.56 | 2.54 | 2.54 |

| J    | K    | L    | M    | N    | P     | Q     | Wt.   |
|------|------|------|------|------|-------|-------|-------|
| .305 | .150 | .120 | .275 | .152 | .405  | 1.400 | grams |
| 7.75 | 3.81 | 3.05 | 6.99 | 3.86 | 10.29 | 35.56 | 4.0   |

Note: Please refer to case style drawing for details

### Demo Board MCL P/N: TB-363+ Suggested PCB Layout(PL-227)



#### NOTES:

- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS: .025" ± .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

- A. 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.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document 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](http://www.minicircuits.com/MCLStore/terms.jsp)

### Features

- Good VSWR, 1.4:1 Typ @ Passband
- High Rejection
- Shielded case
- Aqueous washable

### Applications

- Radio communications
- Harmonic Rejection
- Transmitters / Receivers



Generic photo used for illustration purposes only

CASE STYLE: HQ1157

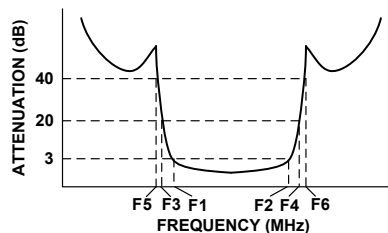
### +RoHS Compliant

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

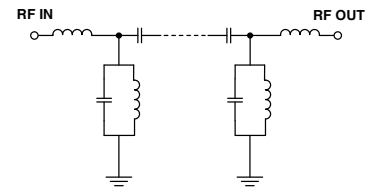
### Bandpass Filter Electrical Specifications (T<sub>AMB</sub> = 25°C)

| CENTER FREQ. (MHz) | PASSBAND (MHz)<br>(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.     |
| 113                | 108 - 118                       | 95              | 140            | 85             | 155 - 2000     | 1.4       | 1.7  | 20       |

### Typical Frequency Response

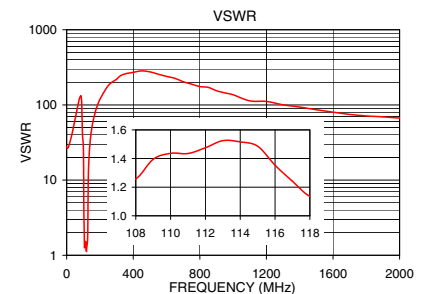


### Functional Schematic



### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 0.5             | 89.49               | 27.73     |
| 85.0            | 50.72               | 132.95    |
| 95.0            | 30.61               | 40.91     |
| 102.0           | 13.09               | 13.48     |
| 105.0           | 4.55                | 2.32      |
| 108.0           | 2.19                | 1.26      |
| 110.0           | 1.96                | 1.44      |
| 113.0           | 1.87                | 1.52      |
| 115.0           | 1.85                | 1.49      |
| 118.0           | 1.93                | 1.14      |
| 120.0           | 2.10                | 1.24      |
| 125.0           | 5.58                | 1.52      |
| 127.0           | 10.42               | 2.13      |
| 130.0           | 17.67               | 10.85     |
| 140.0           | 34.45               | 30.53     |
| 155.0           | 48.83               | 55.47     |
| 500.0           | 95.86               | 275.36    |
| 2000.0          | 62.85               | 66.90     |



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Mini-Circuits:](#)

[BPF-A113+](#)