

# Bandpass Filter

## Features

- good VSWR, 1.7:1 typ. @ passband
- small size 8.89" x 8.89"
- shielded case
- aqueous washable

## Applications

- harmonic rejection
- transmitters / receivers
- navigation

## HT-RBP-253+



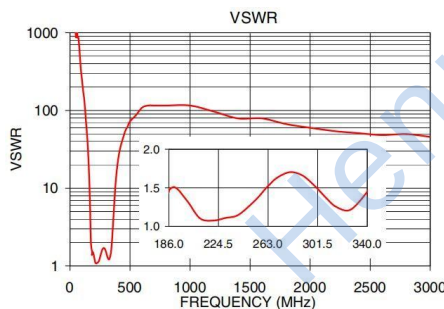
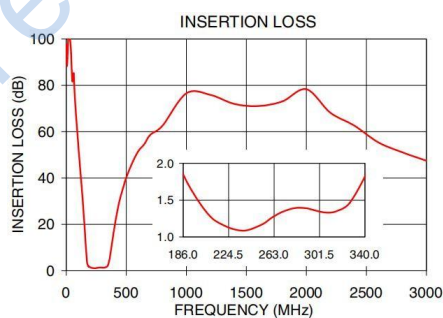
50Ω 186 to 340 MHz

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

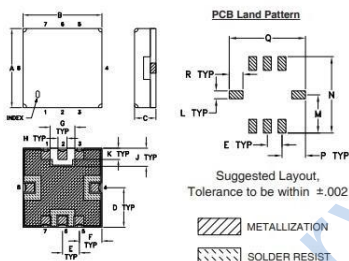
| CENTER<br>FREQ.<br>(MHz) | PASSBAND<br>(MHz)<br>(Loss < 4dB) | STOPBAND<br>(MHz) |     |               |          | VSWR     |      |          |
|--------------------------|-----------------------------------|-------------------|-----|---------------|----------|----------|------|----------|
|                          |                                   | (Loss > 20dB)     |     | (Loss > 35dB) |          | Passband |      | Stopband |
| F <sub>c</sub>           | F1 - F2                           | F3                | F4  | F5            | F6       | Typ.     | Max. | Typ.     |
| 253                      | 186-340                           | 140               | 440 | 120           | 500-3000 | 1.7      | 2.1  | 18       |

## Typical Performance Data at 25° C

| Frequency<br>(MHz) | Insertion Loss<br>(dB) | VSWR<br>(:1) |
|--------------------|------------------------|--------------|
| 0.3                | 97.50                  | 1737.18      |
| 50                 | 81.95                  | 868.59       |
| 120                | 41.47                  | 133.63       |
| 140                | 28.14                  | 54.29        |
| 163                | 10.51                  | 9.53         |
| 170                | 5.40                   | 3.68         |
| 186                | 1.82                   | 1.47         |
| 253                | 1.17                   | 1.34         |
| 263                | 1.28                   | 1.52         |
| 300                | 1.35                   | 1.51         |
| 340                | 1.82                   | 1.45         |
| 345                | 2.16                   | 1.69         |
| 362                | 5.38                   | 4.23         |
| 380                | 11.59                  | 11.61        |
| 440                | 29.39                  | 43.44        |
| 500                | 40.20                  | 72.39        |
| 2000               | 78.34                  | 59.91        |
| 3000               | 47.45                  | 45.72        |



## Outline Drawing



## Outline Dimensions: Unit (mm)

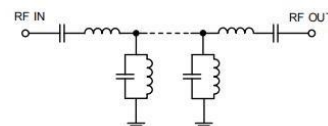
|   |      |    |      |   |      |
|---|------|----|------|---|------|
| A | 8.89 | B  | 8.89 | C | 2.54 |
| D | 4.45 | E  | 1.91 | F | 2.54 |
| G | 2.79 | H  | 1.02 | J | 2.03 |
| K | 1.27 | L  | 1.02 | M | 4.95 |
| N | 9.91 | P  | 3.05 | Q | 9.91 |
| R | 1.78 | wt | 0.25 |   |      |

## Maximum Ratings

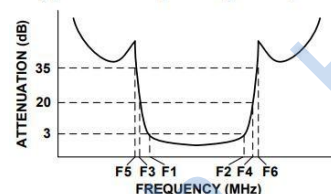
|                       |                |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |
| RF Power Input*       | 0.5 W at 25°C  |

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

## Functional Schematic



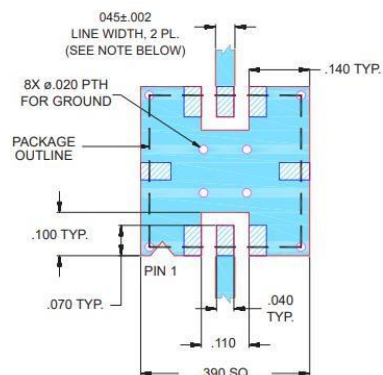
## Typical Frequency Response



## Pad Connections

|        |                  |
|--------|------------------|
| RF IN  | 2                |
| RF OUT | 6                |
| GROUND | 1, 3, 4, 5, 7, 8 |

## Demo Board MCL P/N: TB-332 Suggested PCB Layout (PL-176)



- NOTES:
1. 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.
  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 SOLDER MASK