

# Bandpass Filter

## Features

- low insertion loss, 1.5 dB max.
- good selectivity, 1.76 typ. 20 dB/3 dB BW ratio
- rugged shielded case, hermetically sealed

## Applications

- military hi-rel systems
- high rejection applications
- image rejection
- IF signal processing

## HT-PBP-60+



50Ω Elliptic Response 55 to 67 MHz

### Bandpass Filter Electrical Specifications

| CENTER<br>FREQ.<br>(MHz) | PASSBAND<br>(MHz)            | 3dB<br>BANDWIDTH<br>(MHz) | STOPBANDS                   |                             | VSWR<br>(:1)     |                  |
|--------------------------|------------------------------|---------------------------|-----------------------------|-----------------------------|------------------|------------------|
|                          |                              |                           | (I. loss > 20 dB)<br>at MHz | (I. loss > 35 dB)<br>at MHz | Passband<br>Max. | Stopband<br>Typ. |
| 60                       | 55-67<br>I.L. 1.5 dB<br>Max. | 49.8-70.5<br>Typ.         | 44&79                       | 4.6&190-1000                | 1.7              | 16               |

### Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°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.

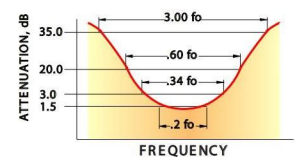
### Pid Connections

|             |             |
|-------------|-------------|
| INPUT       | 1           |
| OUTPUT      | 8           |
| GROUND      | 2,3,4,5,6,7 |
| CASE GROUND | 2,3,4,5,6,7 |

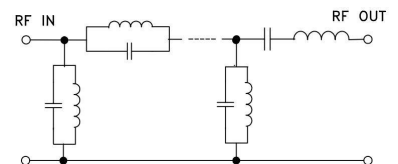
### Typical Performance Data

| Frequency<br>(MHz) | Insertion Loss<br>(dB) |     | Return Loss<br>(dB) | Frequency<br>(MHz) | Group Delay<br>(nsec) |
|--------------------|------------------------|-----|---------------------|--------------------|-----------------------|
|                    | x                      | σ   |                     |                    |                       |
| 1.0                | 84.04                  | 7.1 | 0.1                 | 17.9               | 3.24                  |
| 1.7                | 85.43                  | 7.0 | 0.1                 | 31.1               | 5.99                  |
| 2.4                | 76.11                  | 2.6 | 0.1                 | 43.9               | 39.92                 |
| 3.2                | 74.96                  | 2.8 | 0.1                 | 44.7               | 35.65                 |
| 3.9                | 71.07                  | 2.3 | 0.1                 | 46.2               | 16.49                 |
| 4.6                | 67.50                  | 1.7 | 0.1                 | 47.9               | 6.77                  |
| 10.0               | 54.99                  | 0.4 | 0.1                 | 49.5               | 46.45                 |
| 32.7               | 30.64                  | 1.9 | 0.2                 | 54.0               | 41.14                 |
| 44.0               | 33.27                  | 4.8 | 0.9                 | 55.0               | 43.52                 |
| 45.0               | 29.89                  | 6.3 | 1.1                 | 55.9               | 40.06                 |
| 47.0               | 15.98                  | 3.6 | 2.0                 | 57.9               | 34.90                 |
| 48.6               | 7.60                   | 2.1 | 4.7                 | 58.9               | 33.28                 |
| 49.8               | 3.27                   | 0.7 | 9.8                 | 61.0               | 31.63                 |
| 55.0               | 1.36                   | 0.1 | 23.3                | 62.0               | 31.51                 |
| 58.7               | 1.16                   | 0.1 | 23.8                | 64.2               | 32.81                 |
| 60.3               | 1.14                   | 0.1 | 21.0                | 65.3               | 34.54                 |
| 63.7               | 1.20                   | 0.1 | 19.8                | 66.5               | 36.94                 |
| 70.5               | 2.89                   | 0.3 | 9.8                 | 67.6               | 39.51                 |
| 71.0               | 3.45                   | 0.3 | 8.0                 | 70.0               | 42.12                 |
| 73.7               | 9.21                   | 0.6 | 2.4                 | 71.2               | 41.29                 |
| 76.3               | 18.97                  | 0.8 | 0.9                 | 73.7               | 26.18                 |
| 79.0               | 34.96                  | 1.1 | 0.5                 | 76.3               | 1.54                  |
| 100.0              | 27.50                  | 0.5 | 0.1                 | 77.6               | 7.17                  |
| 160.0              | 40.78                  | 0.6 | 0.1                 | 79.0               | 12.52                 |
| 190.0              | 45.59                  | 0.7 | 0.1                 | 115.5              | 1.93                  |
| 300.0              | 61.77                  | 1.7 | 0.1                 | 152.2              | 0.90                  |
| 475.0              | 68.58                  | 5.7 | 0.1                 | 187.3              | 0.73                  |
| 650.0              | 53.94                  | 1.4 | 0.1                 | 190.5              | 0.40                  |
| 825.0              | 46.86                  | 1.7 | 0.1                 | 393.6              | 0.05                  |
| 1000.0             | 42.22                  | 1.9 | 0.1                 | 595.7              | 0.50                  |

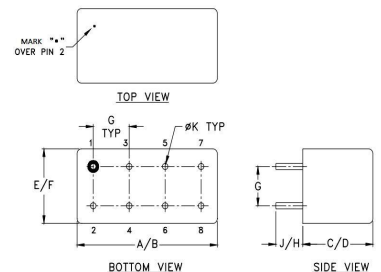
### typical frequency response



### electrical schematic



### Outline Drawing



Suggested Layout  
Tolerance to be within ±0.2

### Outline Dimensions: Unit (mm)

|    |       |   |       |   |      |
|----|-------|---|-------|---|------|
| A  | 19.56 | D | 10.16 | G | 5.08 |
| B  | 20.32 | E | 9.40  | H | 5.08 |
| C  | 9.78  | F | 10.16 | J | 356  |
| WT |       |   | 5.2g  | K | 0.79 |