

# Coaxial Bandpass Filter

ECO BBP-20R5+

50Ω 20 to 21 MHz

## Features

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

## Applications

- Transmitters / Receivers - IF stage
- Harmonic rejection
- Test equipments
- Military

## Maximum Ratings

Operating Temperature -40°C to 85°C  
Storage Temperature -55°C to 100°C.  
RF Power Input 5 W max.  
Permanent damage may occur if any of these limits are exceeded.

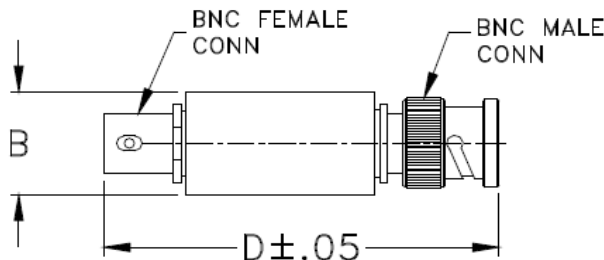
## Coaxial Connections

PORT - 1 BNC-MALE  
PORT - 2 BNC-FEMALE

## Outline Dimensions (inch)

A B C D E Wt.  
-- 0.57 -- 2.59 -- grams  
-- 14.47 -- 65.79 -- 40

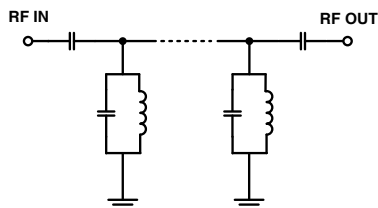
## Outline Drawing



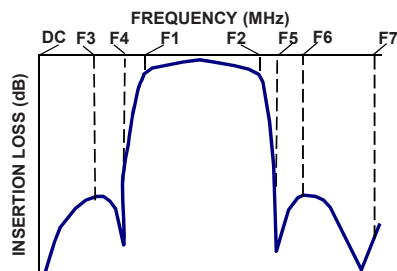
## Electrical Specifications at 25°C

| Parameter        | F#               | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|------------------|------------------|-----------------|------|------|------|------|
| Pass Band        | Center Frequency | -               | -    | 20.5 | -    | MHz  |
|                  | Insertion Loss   | F1-F2           | -    | 2.2  | 3.0  | dB   |
|                  | VSWR             | F1-F2           | -    | 1.3  | 1.6  | :1   |
| Stop Band, Lower | Insertion Loss   | DC-F3           | 40   | 50   | -    | dB   |
|                  |                  | F3-F4           | 20   | 27   | -    | dB   |
|                  | VSWR             | DC-F4           | -    | 20   | -    | :1   |
| Stop Band, Upper | Insertion Loss   | F5-F6           | 20   | 28   | -    | dB   |
|                  |                  | F6-F7           | 40   | 45   | -    | dB   |
|                  | VSWR             | F5-F7           | -    | 20   | -    | :1   |

## Functional Schematic



## Typical Frequency Response



## Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) | Frequency (MHz) | Group Delay (ns) |
|-----------------|---------------------|-----------|-----------------|------------------|
| 1.0             | 98.76               | 3744.00   | 19.5            | 282.22           |
| 10.0            | 81.53               | 1498.50   | 19.6            | 271.33           |
| 15.0            | 62.87               | 174.64    | 19.7            | 262.11           |
| 15.8            | 50.22               | 112.05    | 19.8            | 254.31           |
| 17.0            | 32.36               | 48.32     | 19.9            | 247.41           |
| 17.1            | 30.76               | 44.24     | 20.0            | 241.31           |
| 17.7            | 20.43               | 22.27     | 20.1            | 235.95           |
| 18.0            | 14.68               | 13.12     | 20.2            | 231.18           |
| 18.7            | 3.41                | 1.85      | 20.3            | 226.99           |
| 20.0            | 1.49                | 1.03      | 20.4            | 223.32           |
| 20.5            | 1.40                | 1.03      | 20.5            | 220.13           |
| 21.0            | 1.40                | 1.18      | 20.6            | 217.33           |
| 22.7            | 3.53                | 2.91      | 20.7            | 214.95           |
| 24.0            | 13.84               | 22.15     | 20.8            | 212.81           |
| 25.0            | 20.33               | 48.71     | 20.9            | 210.93           |
| 27.0            | 28.91               | 111.48    | 21.0            | 209.38           |
| 27.5            | 30.49               | 126.54    | 21.1            | 208.18           |
| 40.0            | 47.04               | 320.77    | 21.2            | 207.31           |
| 150.0           | 59.97               | 93.85     | 21.3            | 207.06           |
| 380.0           | 49.47               | 61.09     | 21.5            | 208.37           |

