

# Low Pass Filter

75Ω DC to 22 MHz

## Maximum Ratings

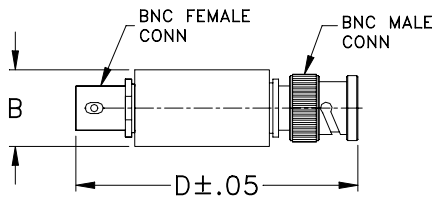
Operating Temperature -55°C to 100°C

Storage Temperature -55°C to 100°C

RF Power Input 0.5W max.

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

## Outline Drawing



## Outline Dimensions (inch/mm)

| B     | D     | wt    |
|-------|-------|-------|
| .57   | 2.59  | grams |
| 14.47 | 65.79 | 40.0  |

## Features

- rugged shielded case
- other standard and custom BLP models available with wide selection of fco

## Applications

- test equipment
- lab use
- video equipment

BLP-21.4-75+



Generic photo used for illustration purposes only

|                  |
|------------------|
| CASE STYLE: FF55 |
| Connectors Model |
| BNC BLP-21.4-75+ |

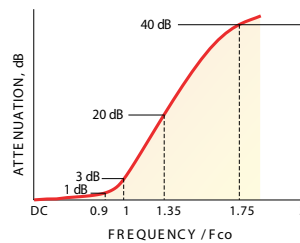
## +RoHS Compliant

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

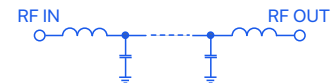
## Low Pass Filter Electrical Specifications

| PASSBAND (MHz) | fco, (MHz) Nom. | STOPBAND (MHz)                | VSWR (:1)                   |
|----------------|-----------------|-------------------------------|-----------------------------|
| (loss < 1 dB)  | (loss 3 dB)     | (loss > 20 dB) (loss > 40 dB) | Passband Typ. Stopband Typ. |
| DC-22          | 24.5            | 32-41 41-200                  | 1.7 18                      |

## typical frequency response

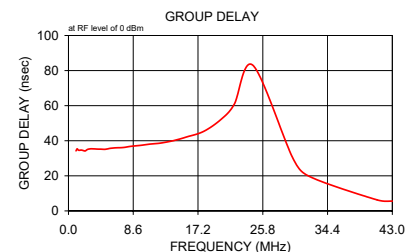
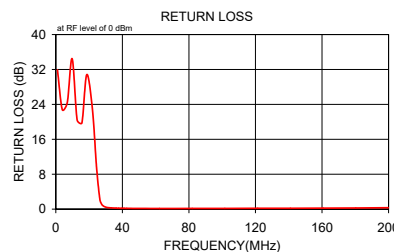


## electrical schematic



## Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB) | Frequency (MHz) | Group Delay (nsec) |
|-----------------|---------------------|------------------|-----------------|--------------------|
| $\bar{x}$       | $\sigma$            |                  |                 |                    |
| 1.00            | 0.03                | 0.02             | 1.00            | 34.25              |
| 3.90            | 0.08                | 0.02             | 1.15            | 35.37              |
| 6.90            | 0.10                | 0.02             | 1.31            | 34.65              |
| 9.80            | 0.12                | 0.02             | 1.49            | 34.57              |
| 12.80           | 0.21                | 0.03             | 1.70            | 34.69              |
| 15.70           | 0.28                | 0.04             | 1.94            | 34.46              |
| 18.60           | 0.33                | 0.03             | 2.22            | 34.18              |
| 22.00           | 0.57                | 0.05             | 2.53            | 35.06              |
| 24.50           | 1.68                | 0.34             | 2.89            | 35.37              |
| 26.50           | 6.69                | 0.88             | 3.30            | 35.39              |
| 27.60           | 10.63               | 0.91             | 3.76            | 35.25              |
| 28.70           | 14.56               | 0.86             | 4.29            | 35.22              |
| 29.80           | 18.27               | 0.80             | 4.90            | 35.14              |
| 30.90           | 21.71               | 0.76             | 5.59            | 35.69              |
| 32.00           | 24.92               | 0.72             | 6.38            | 35.99              |
| 33.10           | 27.92               | 0.68             | 7.28            | 36.15              |
| 34.70           | 31.99               | 0.65             | 8.31            | 36.84              |
| 36.30           | 35.75               | 0.64             | 9.48            | 37.34              |
| 37.80           | 39.04               | 0.63             | 10.82           | 38.10              |
| 39.40           | 42.36               | 0.66             | 12.22           | 38.68              |
| 41.00           | 45.59               | 0.70             | 13.94           | 40.03              |
| 42.60           | 48.48               | 0.68             | 15.74           | 42.23              |
| 62.30           | 86.22               | 7.37             | 17.96           | 45.34              |
| 82.00           | 84.27               | 2.85             | 20.27           | 52.21              |
| 101.60          | 80.44               | 2.15             | 22.00           | 60.69              |
| 121.30          | 85.58               | 2.35             | 24.50           | 82.98              |
| 141.00          | 83.93               | 5.17             | 29.79           | 30.12              |
| 160.70          | 87.05               | 7.84             | 32.00           | 19.62              |
| 180.30          | 84.80               | 4.04             | 41.00           | 6.24               |
| 200.00          | 86.54               | 5.90             | 43.00           | 5.59               |



## 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)



# Coaxial Low Pass Filter

## BLP-21.4-75+

### Typical Performance Data

| FREQUENCY<br>(MHz) | INSERTION<br>LOSS<br>(dB) | RETURN<br>LOSS<br>(dB) | FREQUENCY<br>(MHz) | GROUP<br>DELAY<br>(nsec) |
|--------------------|---------------------------|------------------------|--------------------|--------------------------|
| 1.0                | 0.03                      | 31.92                  | 1.0                | 34.250                   |
| 3.9                | 0.08                      | 22.80                  | 1.2                | 35.370                   |
| 6.9                | 0.10                      | 24.45                  | 1.3                | 34.650                   |
| 9.8                | 0.12                      | 34.47                  | 1.5                | 34.570                   |
| 12.8               | 0.21                      | 20.46                  | 1.7                | 34.690                   |
| 15.7               | 0.28                      | 19.77                  | 1.9                | 34.460                   |
| 18.6               | 0.33                      | 30.82                  | 2.2                | 34.180                   |
| 22.0               | 0.57                      | 22.89                  | 2.5                | 35.060                   |
| 24.5               | 1.68                      | 9.60                   | 2.9                | 35.370                   |
| 26.5               | 6.69                      | 2.21                   | 3.3                | 35.390                   |
| 27.6               | 10.63                     | 1.11                   | 3.8                | 35.250                   |
| 28.7               | 14.56                     | 0.68                   | 4.3                | 35.220                   |
| 29.8               | 18.27                     | 0.48                   | 4.9                | 35.140                   |
| 30.9               | 21.71                     | 0.38                   | 5.6                | 35.690                   |
| 32.0               | 24.92                     | 0.33                   | 6.4                | 35.990                   |
| 33.1               | 27.92                     | 0.29                   | 7.3                | 36.150                   |
| 34.7               | 31.99                     | 0.26                   | 8.3                | 36.840                   |
| 36.3               | 35.75                     | 0.23                   | 9.5                | 37.340                   |
| 37.8               | 39.04                     | 0.21                   | 10.8               | 38.100                   |
| 39.4               | 42.36                     | 0.20                   | 12.2               | 38.680                   |
| 41.0               | 45.59                     | 0.19                   | 13.9               | 40.030                   |
| 42.6               | 48.48                     | 0.18                   | 15.7               | 42.230                   |
| 62.3               | 86.22                     | 0.15                   | 18.0               | 45.340                   |
| 82.0               | 84.27                     | 0.16                   | 20.3               | 52.210                   |
| 101.6              | 80.44                     | 0.17                   | 22.0               | 60.690                   |
| 121.3              | 85.58                     | 0.19                   | 24.5               | 82.980                   |
| 141.0              | 83.93                     | 0.20                   | 29.8               | 30.120                   |
| 160.7              | 87.05                     | 0.23                   | 32.0               | 19.620                   |
| 180.3              | 84.80                     | 0.26                   | 41.0               | 6.240                    |
| 200.0              | 86.54                     | 0.32                   | 43.0               | 5.590                    |

REV. X1  
BLP-21.4-75+  
060724  
Page 1 of 1



**Mini-Circuits®**  
IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

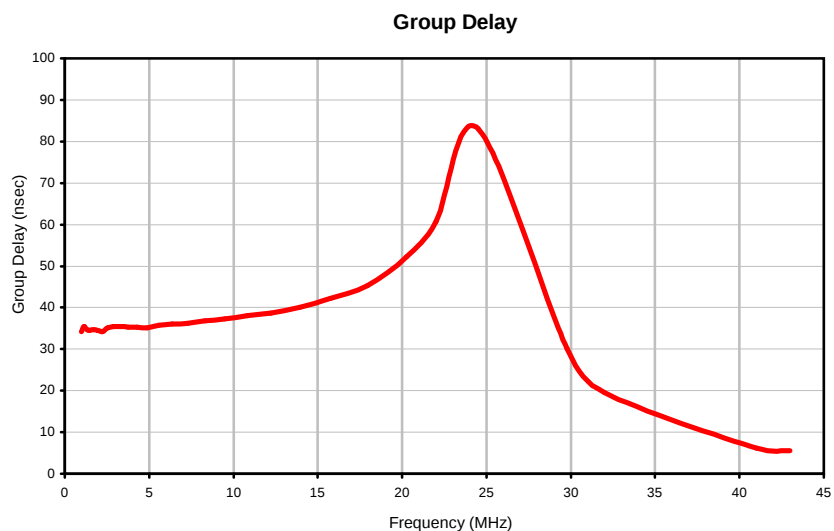
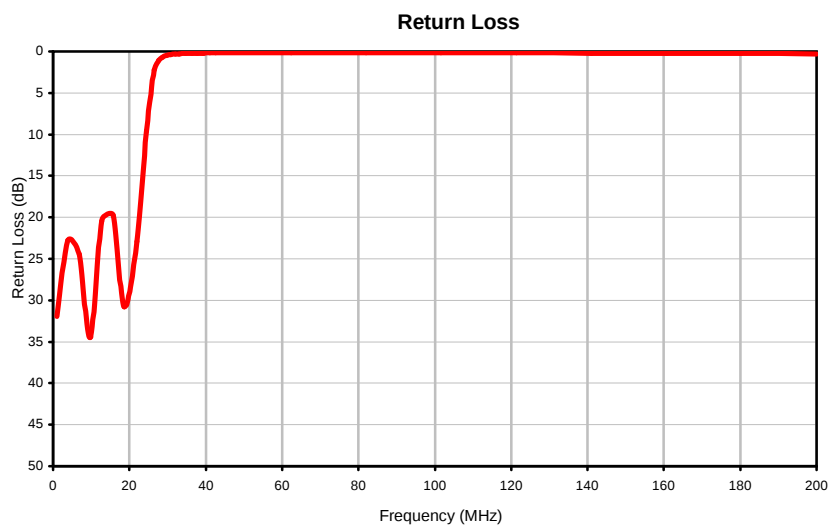
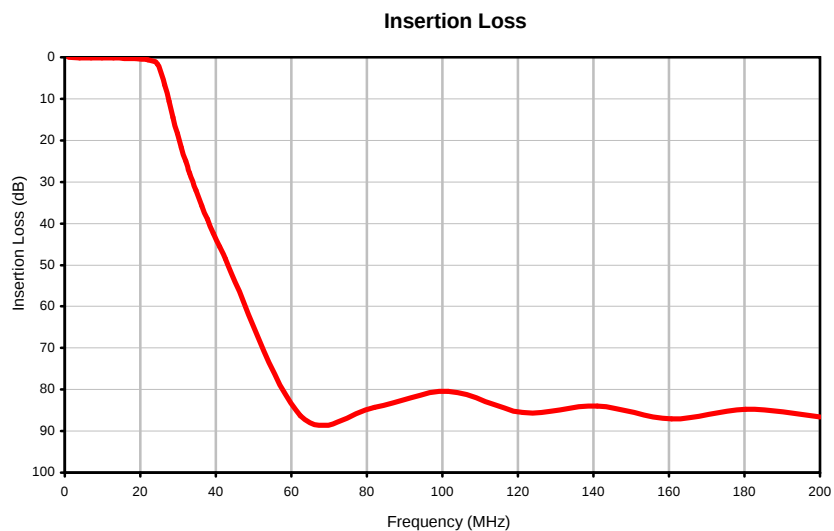
The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



# Coaxial Low Pass Filter

## Typical Performance Curves

BLP-21.4-75+



REV. X1  
BLP-21.4-75+  
060724  
Page 1 of 1



**Mini-Circuits®**  
IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant  
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



### Outline Dimensions



| CASE #. | A  | B              | C  | D               | E  | WT GRAMS |
|---------|----|----------------|----|-----------------|----|----------|
| FF55    | -- | .57<br>(14.47) | -- | 2.59<br>(65.79) | -- | 40.0     |

Dimensions are in inches (mm). Tolerances: 2Pl. +.03/-.04; 3Pl. ± .015

#### Note:

- Case material: Stainless steel.



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification              | Test/Inspection Condition                                                              | Reference/Spec                       |
|----------------------------|----------------------------------------------------------------------------------------|--------------------------------------|
| Operating Temperature      | -55° to 100°C<br>Ambient Environment                                                   | Individual Model Data Sheet          |
| Storage Temperature        | -55° to 100° C<br>Ambient Environment                                                  | Individual Model Data Sheet          |
| Barometric Pressure        | 100,000 Feet                                                                           | MIL-STD-202, Method 105, Condition D |
| Humidity                   | 90% RH, 65°C<br>Units may require bake-out after humidity to restore full performance. | MIL-STD-202, Method 103              |
| Thermal Shock              | -65° to 125°C, 5 cycles                                                                | MIL-STD-202, Method 107, Condition B |
| Vibration (High Frequency) | 20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)    | MIL-STD-202, Method 204, Condition D |
| Mechanical Shock           | 100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)                          | MIL-STD-202, Method 213, Condition I |