

# Coaxial Low Pass Filter

## SBLP-39+

50Ω Flat Time Delay DC to 23 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.

### Features

- flat group delay for low pulse distortion
- rugged shielded case
- other SBLP models available with wide selection of cut-off frequencies

### Applications

- linear modulation techniques
- voice transmission applications
- digital communications



CASE STYLE: FF99  
Connectors Model  
SMA SBLP-39+

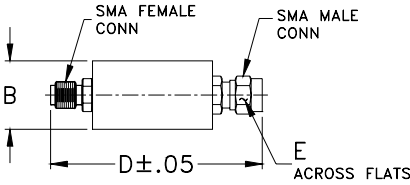
### +RoHS Compliant

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

### Low Pass Filter Electrical Specifications

| PASSBAND (MHz)<br>(loss <1.2 dB)<br>Min. | fco, MHz<br>Nom.<br>(loss 3 dB) | STOPBAND (MHz) |                | VSWR (:1)       |                 | GROUP DELAY VARIATION (nsec) |               |               |
|--|---------------------------------|----------------|----------------|-----------------|-----------------|------------------------------|---------------|---------------|
|  |                                 | (loss > 10 dB) | (loss > 20 dB) | DC-0.2fco       | DC-0.6fco       | DC-fco                       | DC-2fco       | DC-2.67fco    |
| DC-23                                    | 39                              | 78-117         | 117            | $\bar{X}$ 1.3:1 | $\bar{X}$ 2.3:1 | $\bar{X}$ 0.7                | $\bar{X}$ 4.0 | $\bar{X}$ 5.0 |

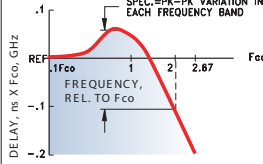
### Outline Drawing



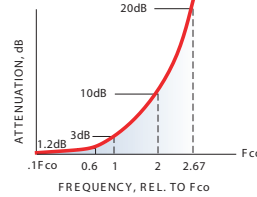
### Outline Dimensions (inch/mm)

| B     | D     | E    | wt    |
|-------|-------|------|-------|
| .67   | 1.98  | .312 | grams |
| 17.02 | 50.29 | 7.92 | 42.0  |

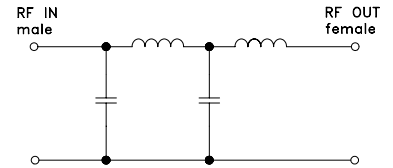
TYPICAL GROUP DELAY



TYPICAL FREQUENCY RESPONSE INSERTION LOSS

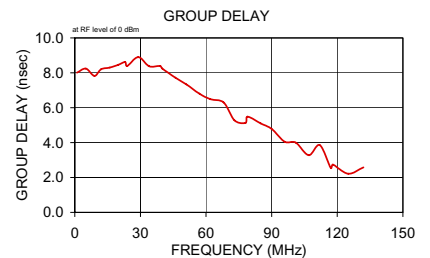
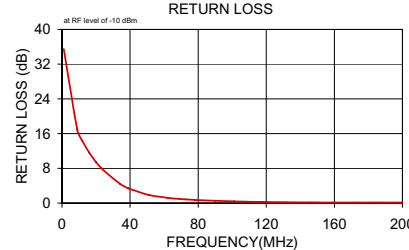
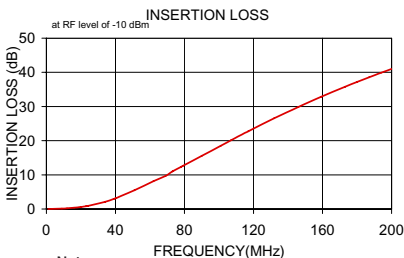


electrical schematic



### Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) |          | Return Loss (dB) | Frequency (MHz) | Group Delay (nsec) |
|-----------------|---------------------|----------|------------------|-----------------|--------------------|
|                 | $\bar{X}$           | $\sigma$ |                  |                 |                    |
| 1.0             | 0.02                | 0.00     | 35.5             | 1.0             | 8.012              |
| 9.0             | 0.14                | 0.00     | 17.0             | 5.0             | 8.243              |
| 12.0            | 0.23                | 0.01     | 14.3             | 9.0             | 7.823              |
| 16.0            | 0.38                | 0.01     | 11.6             | 12.0            | 8.199              |
| 20.0            | 0.60                | 0.02     | 9.4              | 16.0            | 8.305              |
| 23.0            | 0.82                | 0.02     | 8.1              | 20.0            | 8.466              |
| 24.0            | 0.91                | 0.02     | 7.7              | 23.0            | 8.623              |
| 34.0            | 2.11                | 0.03     | 4.5              | 24.0            | 8.392              |
| 39.0            | 2.95                | 0.04     | 3.4              | 29.0            | 8.899              |
| 40.0            | 3.14                | 0.04     | 3.2              | 34.0            | 8.378              |
| 51.0            | 5.48                | 0.06     | 1.9              | 39.0            | 8.392              |
| 62.0            | 8.15                | 0.07     | 1.2              | 40.0            | 8.247              |
| 69.0            | 9.69                | 0.08     | 1.0              | 46.0            | 7.722              |
| 73.0            | 11.00               | 0.09     | 0.8              | 51.0            | 7.336              |
| 78.0            | 12.33               | 0.10     | 0.7              | 57.0            | 6.804              |
| 79.0            | 12.60               | 0.10     | 0.7              | 62.0            | 6.487              |
| 90.0            | 15.56               | 0.13     | 0.5              | 68.0            | 6.306              |
| 101.0           | 18.53               | 0.15     | 0.4              | 73.0            | 5.277              |
| 107.0           | 20.14               | 0.16     | 0.3              | 78.0            | 5.124              |
| 112.0           | 21.46               | 0.16     | 0.3              | 79.0            | 5.489              |
| 117.0           | 22.76               | 0.17     | 0.3              | 85.0            | 5.101              |
| 118.0           | 23.02               | 0.17     | 0.3              | 90.0            | 4.784              |
| 132.0           | 26.55               | 0.17     | 0.2              | 96.0            | 4.054              |
| 146.0           | 29.88               | 0.17     | 0.2              | 101.0           | 3.996              |
| 159.0           | 32.80               | 0.17     | 0.1              | 107.0           | 3.275              |
| 173.0           | 35.76               | 0.16     | 0.1              | 112.0           | 3.856              |
| 180.0           | 37.17               | 0.15     | 0.1              | 117.0           | 2.547              |
| 187.0           | 38.55               | 0.16     | 0.1              | 118.0           | 2.738              |
| 194.0           | 39.89               | 0.15     | 0.1              | 125.0           | 2.216              |
| 200.0           | 41.00               | 0.16     | 0.1              | 132.0           | 2.576              |



### Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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)

