

# Low Pass Filter

VLFX-500

50Ω DC to 500 MHz (40 dB Isolation up to 20 GHz)

## Maximum Ratings

Operating Temperature -55°C to 100°C

Storage Temperature -55°C to 100°C

RF Power Input\* 10W max. at 25°C

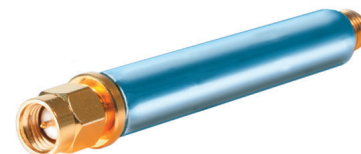
\*Passband rating, derate linearly to 3.5W at 100°C ambient.  
Permanent damage may occur if any of these limits are exceeded.

## Features

- very good isolation, 40 dB up to 20 GHz
- 21 sections
- excellent power handling, 10W
- temperature stable LTCC internal structure
- re-entry frequency > 20 GHz
- rugged unibody construction
- protected by US patent 6,943,646

## Applications

- harmonic rejection
- transmitters/receivers
- lab use
- test instrumentation



CASE STYLE: FF1118

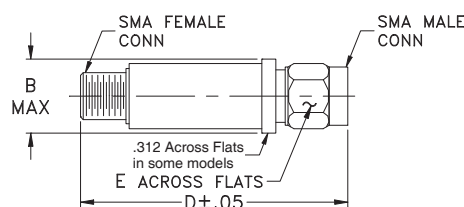
Connectors Model

SMA VLFX-500

+RoHS Compliant

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

## Outline Drawing



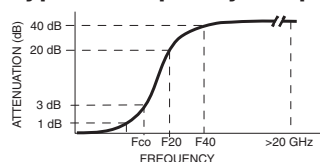
## Outline Dimensions (inch mm)

| B     | D     | E    | wt.   |
|-------|-------|------|-------|
| .410  | 2.67  | .312 | grams |
| 10.41 | 67.82 | 7.92 | 17.0  |

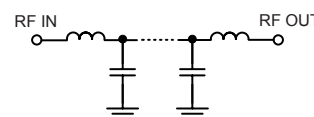
## Low Pass Filter Electrical Specifications @ 25°C

| MODEL NO. | PASSBAND (MHz)      | Fco, MHz Nom    | STOPBAND (MHz) (Loss, dB) |            | VSWR (:1)     |               | NO. OF SECTIONS |
|-----------|---------------------|-----------------|---------------------------|------------|---------------|---------------|-----------------|
|           | (Loss < 1.2dB) Max. | (Loss 3 dB) Typ | F20 Min.                  | F40 Typ.   | Stopband Typ. | Passband Typ. |                 |
| VLFX-500  | DC-500              | 750             | 900                       | 1100-20000 | 10            | 1.15          | 21              |

## Typical Frequency Response

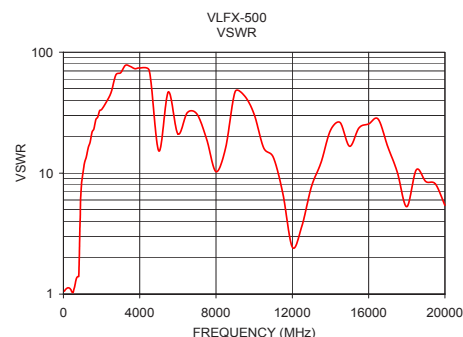
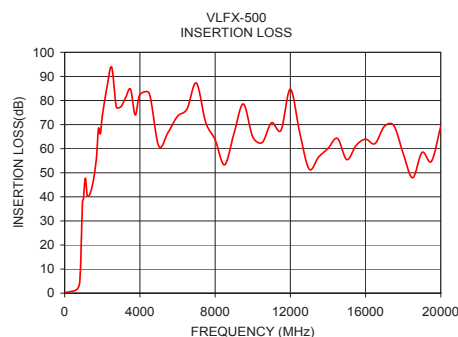


## Functional Schematic



## Typical Performance Data @ 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 50              | 0.29                | 1.06      |
| 150             | 0.38                | 1.11      |
| 375             | 0.71                | 1.10      |
| 500             | 0.94                | 1.03      |
| 575             | 1.17                | 1.13      |
| 650             | 1.53                | 1.29      |
| 750             | 2.70                | 1.39      |
| 820             | 7.04                | 1.70      |
| 900             | 25.98               | 6.19      |
| 1100            | 47.73               | 12.07     |
| 2000            | 73.43               | 33.59     |
| 3000            | 77.47               | 67.57     |
| 4000            | 82.46               | 74.00     |
| 5000            | 61.14               | 15.25     |
| 7500            | 70.97               | 19.22     |
| 10000           | 64.81               | 30.61     |
| 12500           | 66.48               | 3.65      |
| 15000           | 55.46               | 16.68     |
| 17500           | 69.61               | 10.20     |
| 20000           | 69.43               | 5.42      |



## 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-Circuits' applicable established test performance criteria and measurement instructions.  
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