



Mini-Circuits

LTCC COAXIAL

Low Pass Filter

VLFG-510+

50 Ω

DC to 510 MHz SMA Male/Female

KEY FEATURES

- Low Insertion Loss, 1.1 dB Typ.
- Return Loss, 15 dB Typ.
- Stop Band Rejection, 50 dB Typ.
- Rugged unibody construction.
- Power Handling: 3.5 Watts

APPLICATIONS

- VHF/UHF Transmitters / Receivers
- Test and Measurement
- Aircraft Communication
- MRI

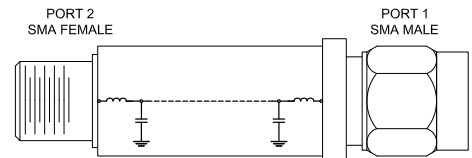


Generic photo used for illustration purposes only

PRODUCT OVERVIEW

VLFG-510+ is a Low Pass filter with DC to 510 MHz passband supporting a variety of applications. This model provides 1.1 dB typical insertion loss over a wide band due to its rugged unibody construction. VLFG-510+ offers low insertion loss, and excellent power handling capability. It handles up to 3.5W RF input power and provides a wide operating temperature range from -55°C to 125°C.

FUNCTIONAL DIAGRAM

ELECTRICAL SPECIFICATIONS^{1,2} AT +25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Pass Band	Insertion Loss	DC-F1	DC- 510	—	1.1	2.0	dB
	Freq. Cut-Off ³	Fc ³	660	—	3	—	dB
	Return Loss	DC-F1	DC - 510	—	15	—	dB
Stop Band	Rejection	F2-F3	820 - 980	20	31	—	dB
		F3-F4	980 - 1500	40	50	—	
		F4-F5	1500 - 3000	—	44	—	
		F5-F6	3000 - 8500	—	19	—	

1. This filter is bi-directional, RF1 and RF2 ports may be interchanged, see S-Parameters for actual performance.

2. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.

3. Typical variation $\pm 5\%$

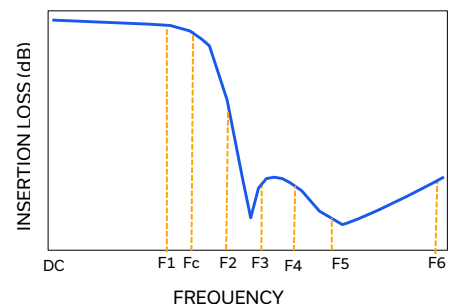
ABSOLUTE MAXIMUM RATINGS⁴

Parameter	Ratings
Operating Temperature	-55 °C to +125 °C
Storage Temperature	-55 °C to +125 °C
Input Power ⁵	3.5 W @25°C

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

5. Power rating applies only to signals within the passband. Power rating above +25°C operating temperature decreases linearly to 0.9 W at +125°C.

TYPICAL FREQUENCY RESPONSE AT +25°C



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REV. OR
ECO-026012
VLFG-510+
EDU5144
URJ
250626

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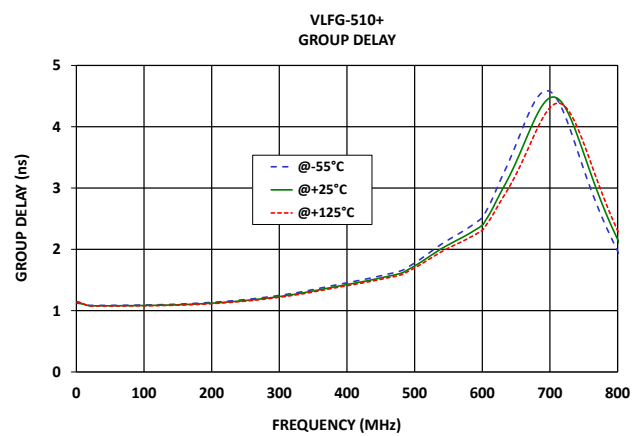
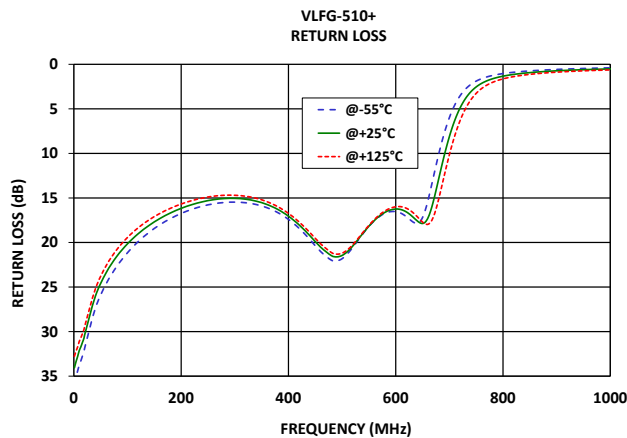
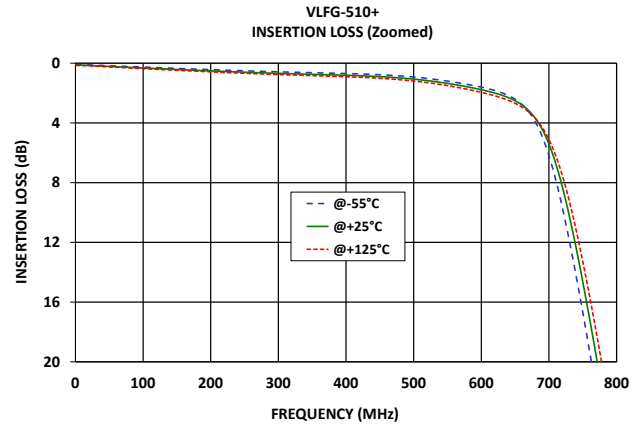
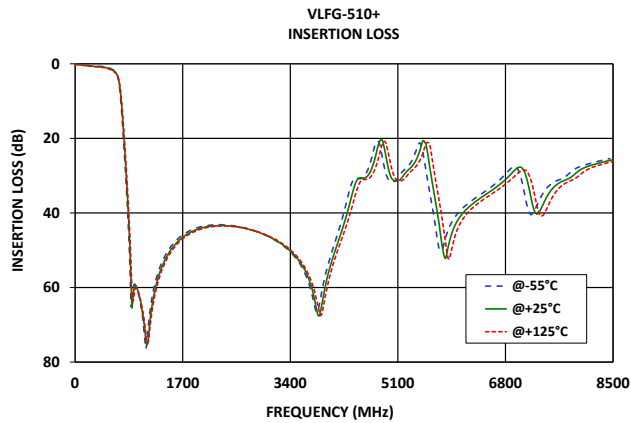
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TYPICAL PERFORMANCE GRAPHS AT +25°C

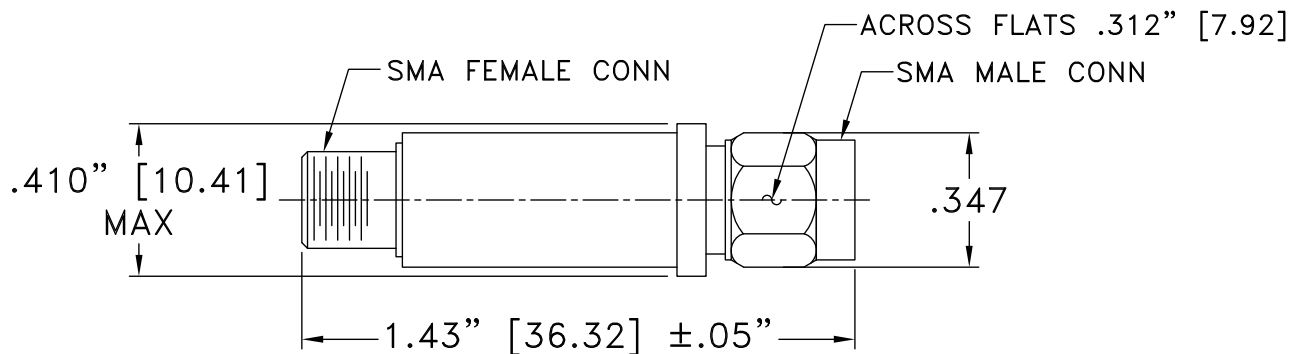




CONNECTOR DESCRIPTION

Function	Functionality	Connector
RF1 ¹	Port-1	SMA MALE
RF2 ¹	Port-2	SMA FEMALE

CASE STYLE DRAWING



Unit weight: 10.0grams

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm.04$ "; 3 Pl. $\pm.30$ "

PRODUCT MARKING*: VLFG-510+

*Marking may contain other features or characters for internal lot control.



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ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD

[CLICK HERE](#)

Performance Data & Graphs	Data
	Graphs
	S-Parameter (S2P Files) Data Set (.zip file)
Case Style	FF704
RoHS Status	Compliant
Environmental Ratings	ENV123

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.
- 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/terms/viewterm.html

