



LTCC COAXIAL

High Pass Filter

VHFG-650+

50Ω

730 to 6500 MHz

SMA Male/Female

KEY FEATURES

- Low Insertion Loss, 1.1 dB Typ.
- Return Loss, 9 dB Typ.
- Stopband Rejection, 48 dB Typ.
- Rugged Unibody Construction
- Power Handling: 2 Watts

APPLICATIONS

- Test and Measurement
- Satellite Communications
- 5G Sub 6 GHz and Wi-Fi 6E
- Drone Mitigation

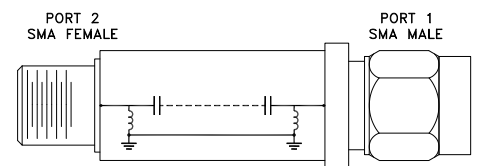
PRODUCT OVERVIEW

VHFG-650+ is a 50Ω high pass filter built in rugged unibody construction. Covering 730-6500 MHz bandwidth, these units offer good matching within the passband and good rejection in stopband. VHFG-650+ offer low insertion loss, and excellent power handling capability. It handles up to 2 W RF input power and provides a wide operating temperature range from -55°C to 125°C.



Generic photo used for illustration purposes only

FUNCTIONAL DIAGRAM

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

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Insertion Loss	F3-F4	730 - 1800	—	2.9	—	dB
		F4-F5	1800 - 5000	—	1.1	1.5	
		F5-F6	5000 - 6500	—	1.1	1.7	
	Return Loss	F3-F4	730 - 1800	—	7	—	dB
		F4-F5	1800 - 5000	—	9	—	
		F5-F6	5000 - 6500	—	9	—	
Stopband	Rejection	DC-F1	DC - 390	39	48	—	dB
		F1-F2	390 - 490	20	36	—	
	Freq. Cut-Off ³	Fc	650	—	3	—	dB

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 $\pm 5\%$

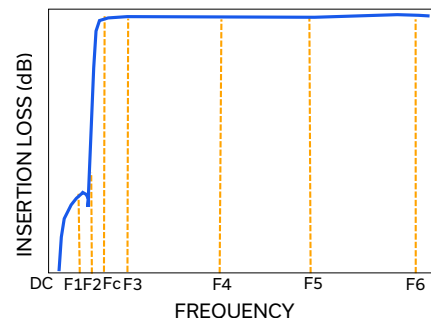
ABSOLUTE MAXIMUM RATINGS⁴

Parameter	Ratings
Operating Temperature	-55°C to +125°C
Storage Temperature	-55°C to +125°C
Input Power ⁵	2 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 0.5 W at +125°C.

TYPICAL FREQUENCY RESPONSE AT +25°C





LTCC COAXIAL

High Pass Filter

VHFG-650+

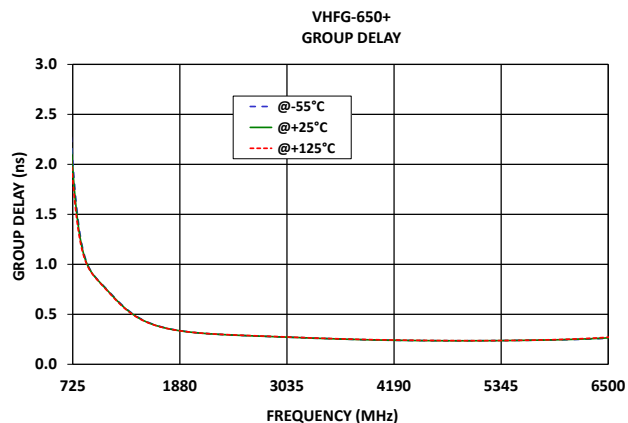
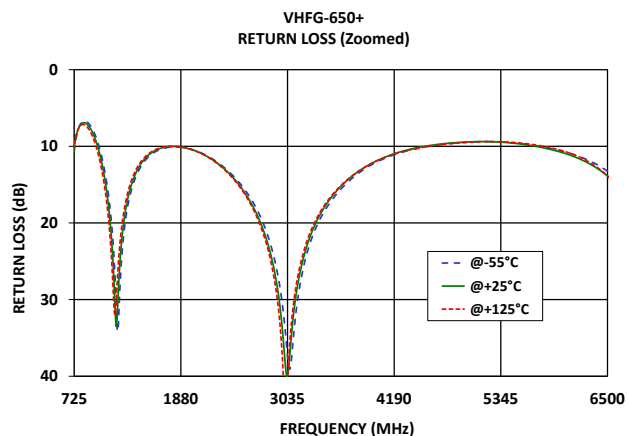
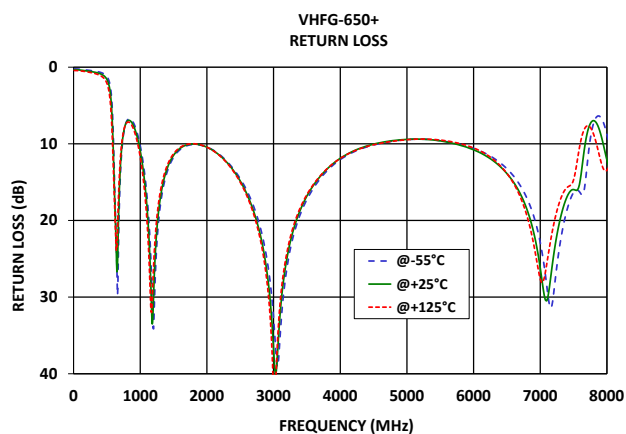
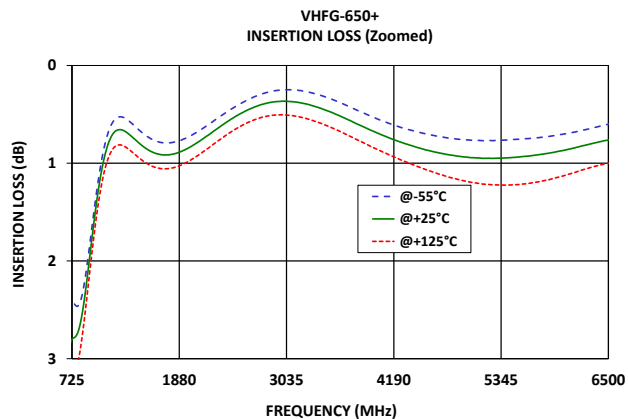
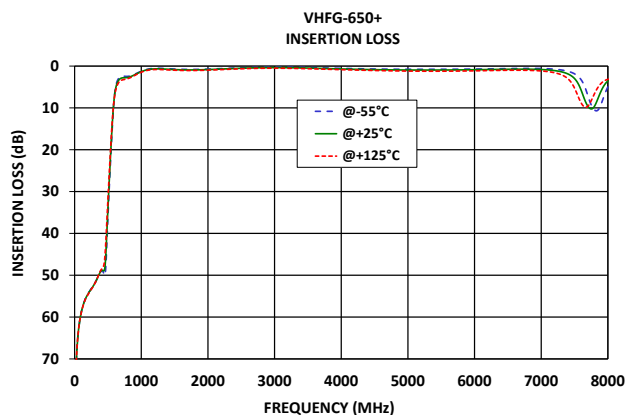
Mini-Circuits

50 Ω

730 to 6500 MHz

SMA Male/Female

TYPICAL PERFORMANCE GRAPHS

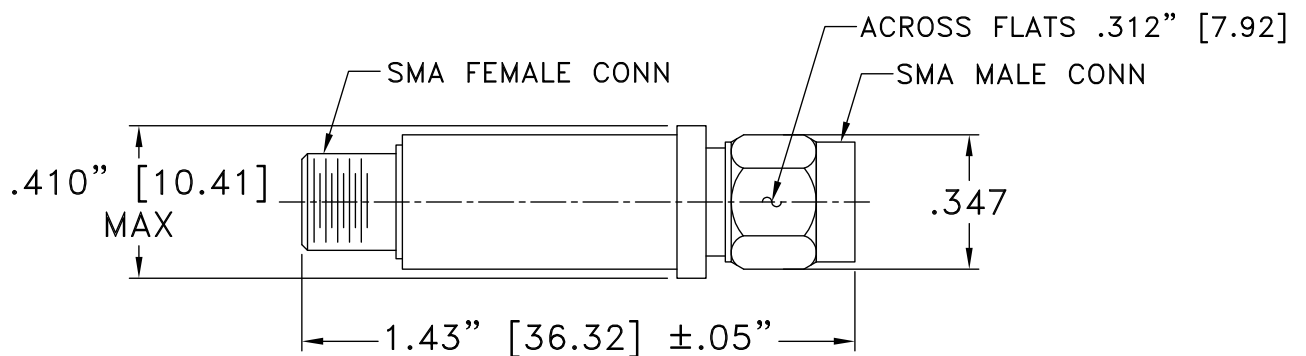




CONNECTOR DESCRIPTION

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*: VHFG-650+

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



Mini-Circuits

LTCC COAXIAL

High Pass Filter

VHFG-650+

50Ω

730 to 6500 MHz

SMA Male/Female

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	ENV113

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

