



GPS LIVE INSIDE

L12F-HR

## Low Noise Amplifier

## DESCRIPTION

Designed with the thin link margins of satellite navigation systems in mind, the L12F is a single input L1 L2 Band Pass Filter that passes only the L1 and L2 GPS frequencies. The device features excellent side band rejection with an insertion loss of less than 5.5dB. The product may pass DC or can also be used as a DC block.

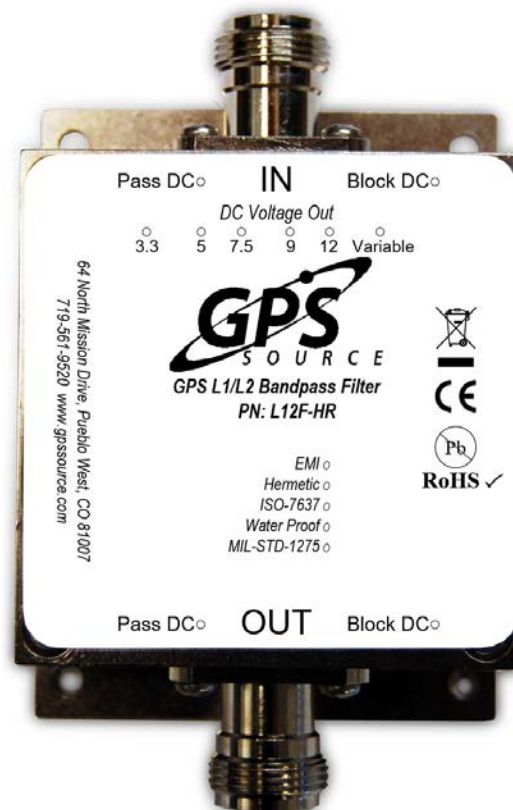
The L12F Pass Filter comes with High Rejection standard on the L1 Band and standard rejection on the L2 band.

## FEATURES

- L1 & L2 GNSS Bands
- Excellent Out of Band Rejection
- Passes DC for Active Antennas

## OPTIONS

The L12F-HR can be custom configured. Please contact GPS Source for further information on product options and specifications.



## L12F-HR Passive Filter Data Sheet

059-FFL-AAA-AAX-AGZ-006  
12/22/2016  
www.gpssource.com

AS9100C:2009 and ISO 9001:2008 Compliant Company

# 1 L12F-HR Electrical Specifications

Table 1-1. Electrical Specifications

Operating Temperature -40°C to 85°C

Parameter	Conditions		Min	Typ	Max	Units
Frequency Range	IN – OUT, IN/OUT 50Ω	1227.6MHz	1.20		1.25	GHz
		1575.4MHz	1.56		1.59	
In/Out Impedance	IN, OUT			50		Ω
Insertion Loss	IN – OUT, IN/OUT 50Ω	1227MHz	4	4.3	5	dB
		1575MHz	5	5.5	6	
Rejection	IN – OUT, IN/OUT 50Ω	1227MHz	± 75MHz	-16		dB
			± 100MHz	-20		
		1575MHz	± 75MHz	-35		
			± 100MHz	-35		
Input SWR	OUT Port 50Ω				2:1	—
Output SWR	IN Port 50Ω				2:1	—
DC IN	Pass DC	Non-Powered Configuration, DC Input on OUT port	3		16	VDC
	Powered	Powered, Military Connection or Quick Connect Option	3 <sup>(1)</sup>		28 <sup>(2)</sup>	
Ant/Thru Current	Pass DC	Non-Powered Configuration, DC Input on OUT port			250	mA
Max RF Input	Max RF Input Without Damage				30	dBm

- Notes: 1. DC IN for powered option *must* be 2V greater than desired DC Voltage Out.  
 2. Maximum DC IN is 35V when 1275B powered option is included.006

## 2 Performance Data

### 2.1 L12F-HR

Figure 2-1. Gain vs. Frequency

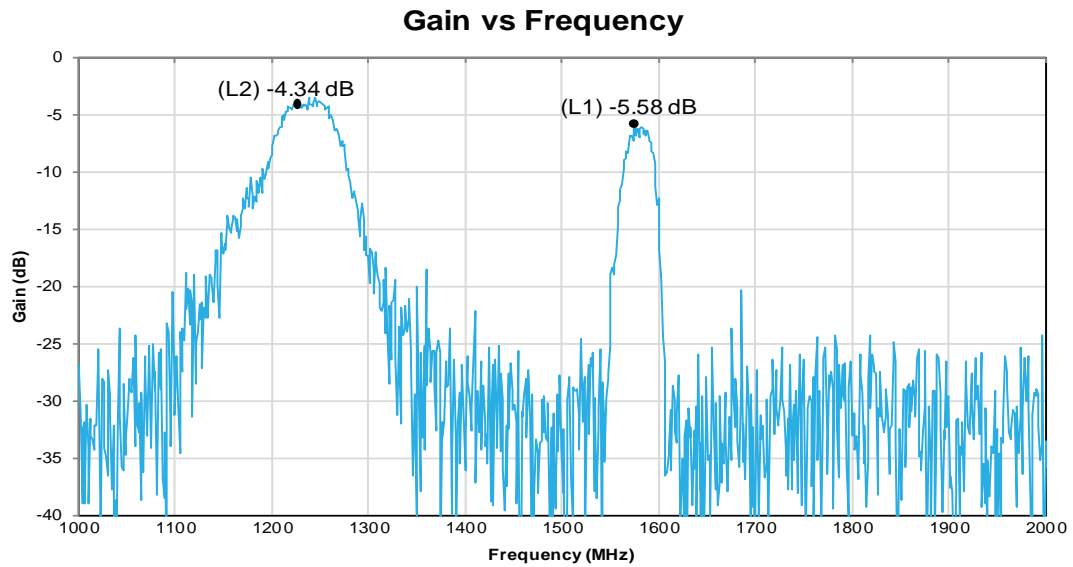
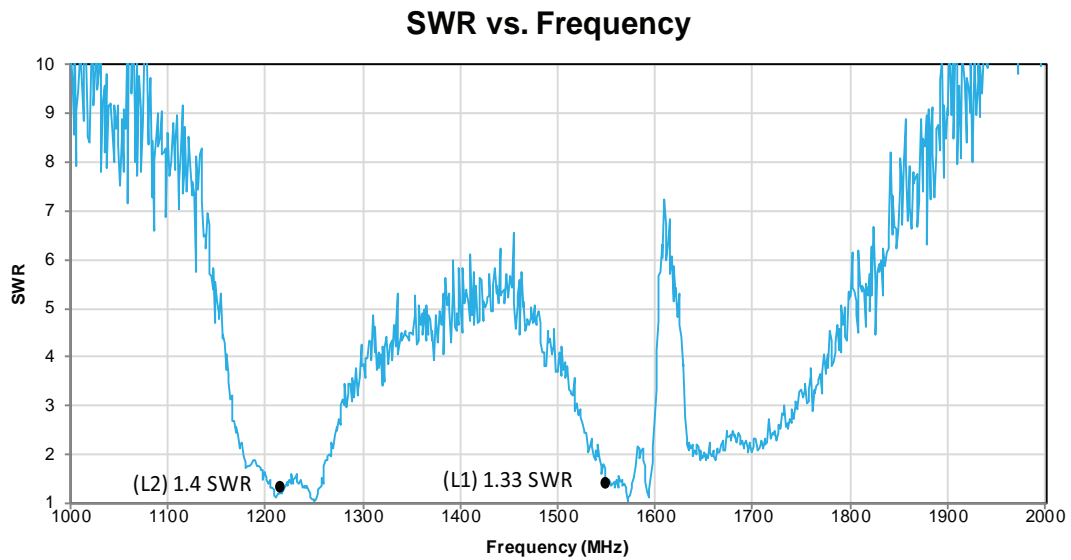


Figure 2-2. SWR vs. Frequency



### 3 Product Options

Table 3-1. L12F-HR Available Options

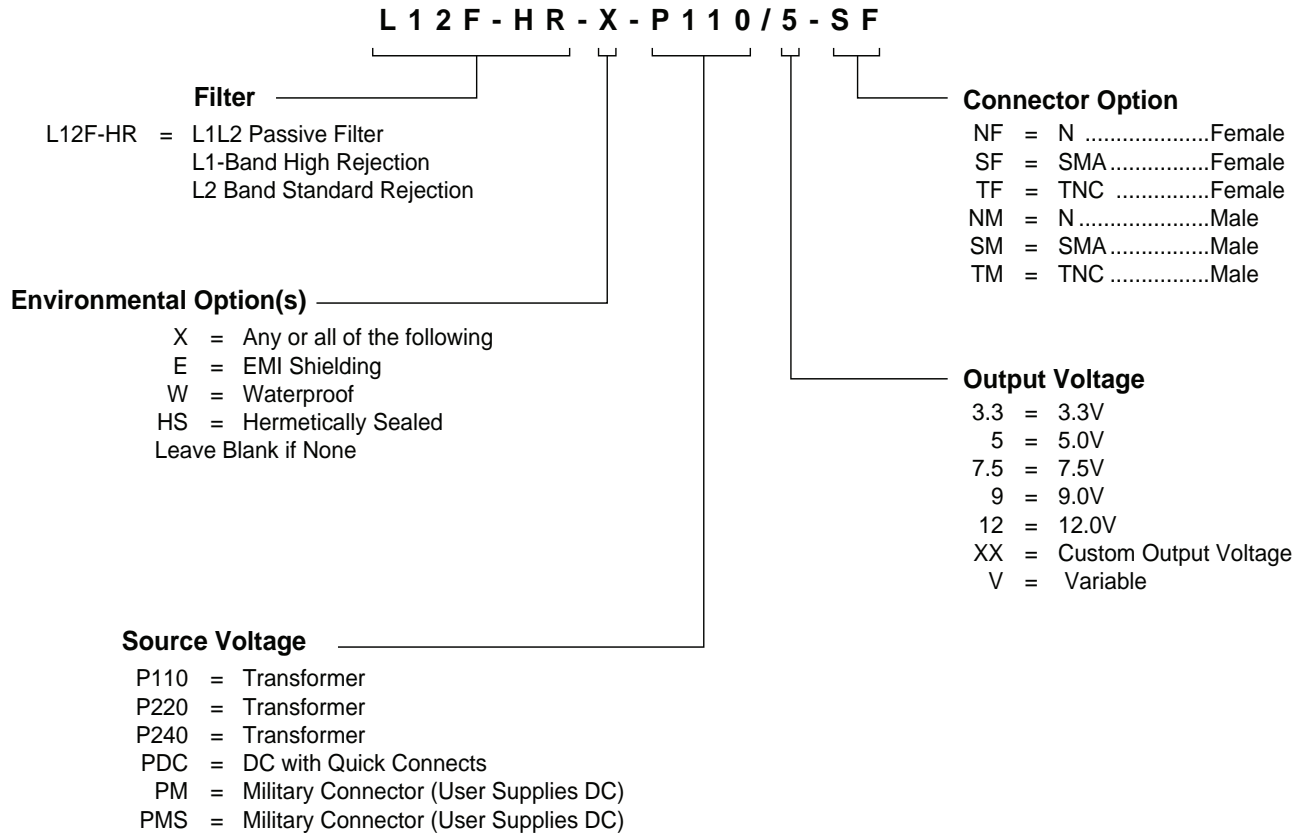
Power Supply		
Source Voltage	Voltage Input	Type
	110VAC	Wall Mount Transformer
	220VAC	Wall Mount Transformer
	240VAC (U.K.)	Wall Mount Transformer
	DC 5VDC to 28VDC	Military Style Connector or Tinned Leads
Output Voltage <sup>(1)</sup>	DC Voltage Out <sup>(2)</sup>	
	3.3	
	5.0	
	7.5	
	9.0	
	12.0	
	Variable (3V to 12V)	
	Custom	
RF Connector		
Connector	Connector Type	Limitations
	N (Female/Male)	N/A
	SMA (Female/Male)	N/A
	TNC Female/Male)	N/A
Housing		
Housing	Housing Type	Limitations
	Standard	None
Port <sup>(1)</sup>		
Configuration	Pass DC <sup>(1)</sup>	IN Port Passes DC
	DC Blocked <sup>(1)</sup>	IN Port Blocks DC

- Notes: 1. Powered Option: any or all RF ports (input or output) can be DC Blocked or can pass the powered DC voltage.  
 2. Maximum combined DC current draw out all ports of the device is a function of the DC input voltage and desired DC output voltage according to the following:

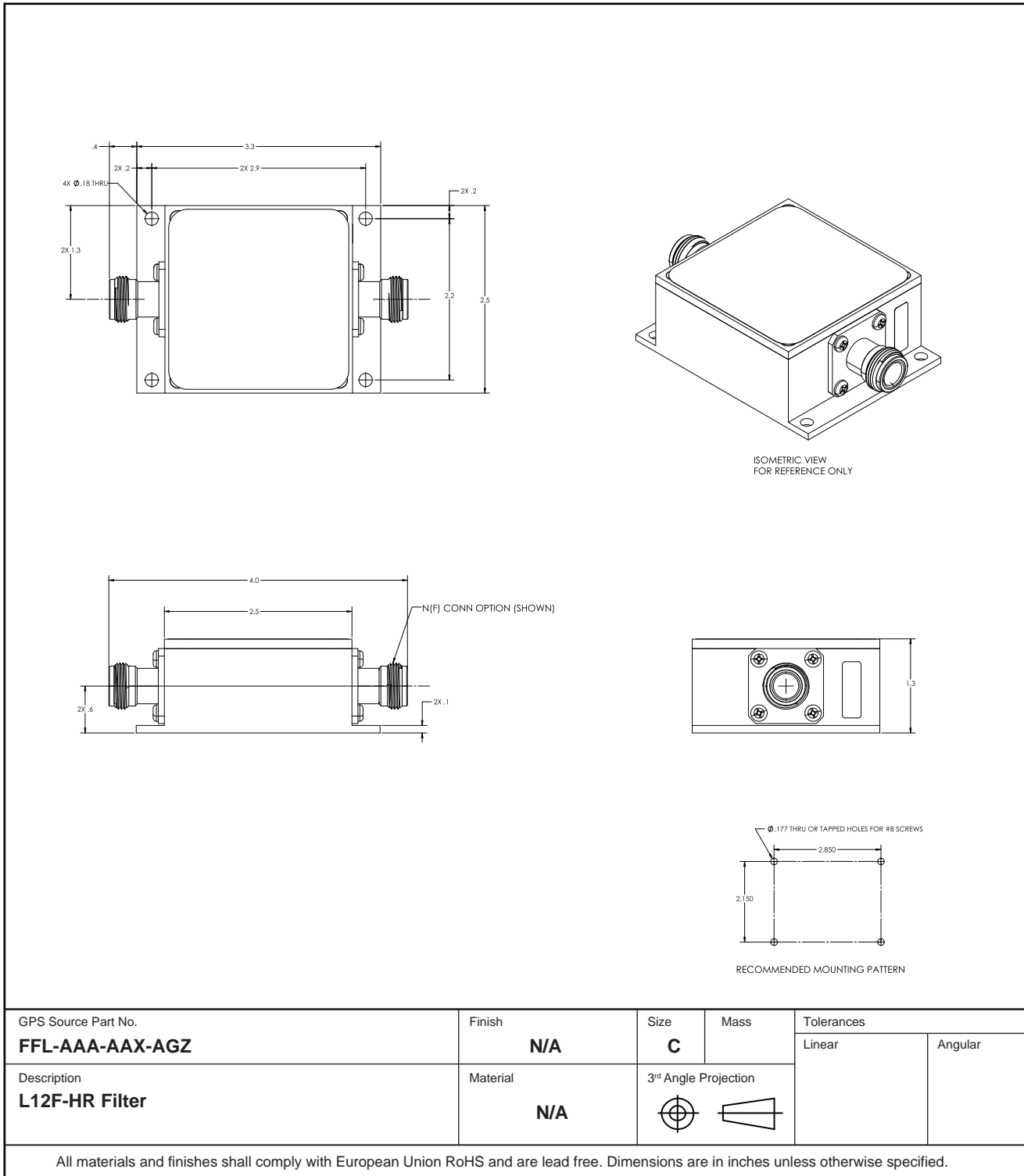
$$I_{out} \leq 1.4 / (VDC\ IN - VDC\ OUT) - 0.007\ \text{Amps (or 250mA max)}$$

For powered option with a wall mount transformer (Voltage Input = 110/220/240VAC), VDC IN is 9V.

## 4 Product Code Decoder



## 5 Mechanical Drawing





**GPS LIVE INSIDE**

## **L12F-HR Passive Filter Data Sheet**

059-FFL-AAA-AAX-AGZ-006

Page 7 of 7, 12/22/2016

64 N. Mission Drive  
Pueblo West, CO 81007  
Phone: (+1)(719) 561.9520  
Fax: (+1)(719) 565.0890  
[techsales@gpssource.com](mailto:techsales@gpssource.com)  
[www.gpssource.com](http://www.gpssource.com)

AS9100C:2009 and ISO 9001:2008 Compliant Company



© 2016 GPS Source, Inc. All rights reserved.

GPS Source, Inc., GPS Live Inside, GPS Source logo, and other GPS Source, Inc. products, brands, and trademarks mentioned in this document are property of GPS Source, Inc. and/or its affiliates in the United States and/or other countries. Other products, brands, and trademarks are property of their respective owners/companies. Any rights not expressly granted herein are reserved.

DISCLAIMER: The materials in this document could include inaccuracies or typographical errors and are subject to change at any time. The materials are provided "as is" without warranty of any kind. To the maximum extent permitted by applicable law, GPS Source, Inc. and its suppliers hereby disclaim all warranties, either expressed or implied, and conditions with respect to the materials, their quality, performance, suitability, merchantability, fitness for a particular purpose, title, and non-infringement. LIMITATION OF LIABILITY: IN NO EVENT WILL GPS SOURCE, INC. AND ITS SUPPLIERS BE LIABLE FOR INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN AN ACTION OF CONTRACT OR TORT, ARISING OUT OF THE USE OR INABILITY TO USE THE MATERIALS AVAILABLE IN THIS DOCUMENT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN PARTICULAR AND WITHOUT LIMITATION, GPS SOURCE, INC. SHALL HAVE NO LIABILITY FOR ANY LOSS OF USE, DATA, INCLUDING THE COSTS OF RECOVERING SUCH DATA, OR PROFITS.