A11XL-F1 Amplifier

Features

- L1 Filtering for interference rejection
- High Gain
  - G = 40dB
- Low Noise Figure
  - F < 2.2dB

Description

Designed for use as a gain block in a GPS distribution network where high gain is required, the A11XL-F1 features L1 filtering, low noise figure and 40dB of gain.

The product may be powered externally with an AC input voltage option, a DC input option, or it may be powered by a GPS receiver's antenna voltage output. With the source voltage option, the A11XL-F1 can provide a DC voltage output to power an active GPS antenna.

The A11XL-F1 amplifier comes with many available options to meet your specific needs. Please call, fax, email (sales@gpssource.com), or visit our website (www.gpssource.com) for further information on product options, specifications.

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Electrical Specifications, Operating Temperature -40 to 85^{0}C

Parameter		Conditions	Min	Typ	Max	Units
Freq. Range: 1575.4MHz		IN – OUT, IN/OUT-50Ω		1575		GHz
In/Out Imped.		IN, OUT		50		Ω
Gain 1575MHz		IN – OUT, IN/OUT-50Ω	41	42	43	dB
Rejection 1575MHz		IN – OUT, IN/OUT-50Ω; +/-20MHz +/- 25MHz +/- 50MHz +/- 100MHz +/- 150MHz		 3 4 13 27 41		dB
Input SWR		OUT Port - 50Ω			2.0:1	-
Output SWR		IN Port - 50Ω			2.0:1	-
Noise Figure		IN – OUT, IN/OUT-50Ω	-40C	25C	85C	
			1.6	2.1	2.2	dB
OP3				6.5		dB
IIP3				-35.50		dB
AC IN	110	Wall Mount Transformer(3)		110		VAC
	220/240	Wall Mount Transformer (Various Intl. plug types available)(3)		230		VAC
DC IN	DC Blk	Any DC Blocked Port with a 200 Ω Load			14	VDC
	Powered	Non-Powered Configuration, DC Input on J1	3		16 16	VDC
	Pass DC	Powered, Mil. Conn. or Tinned Leads (5)	3(1)	28(2)	32(2)	VDC
Current($I_{internal}$)		Current Consumption of device, excludes Ant. Cur.			26	mA
Ant/Thru Current	Pass DC	Non-Powered Configuration, DC via Input or Output			250	mA
	Powered	Powered, Mil. Conn. or Tinned Leads			Note 3	mA

Notes:

1. DC IN for powered option must be 3V greater than desired DC Voltage Out
2. By design 1275B spike & surge protection assumes a 28 volt system, 33.3 V or greater will trigger over voltage protection circuitry.
3. Maximum DC total current draw out all port[s] of the device is a function of the DC input voltage and the output voltage where the power dissipation must be less than 1 watt @ 25C:

$$(V_{DC\ IN} - V_{DC\ OUT} - 1.2) * (I_{out} + I_{internal}) \leq 1W\ @\ 25C$$

For powered option with a wall mount transformer (Voltage Input = 110/220/240 VAC), $V_{DC\ IN}$ is 9V.

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Author: Preetha Sayuj
Department: R&D
Description: A11XL-F1 Data Sheet
Doc. No.: 1529-TS-L1-Filtered-40dB-Amplifier-03
Date: 04/29/2013
www.gpssource.com

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1. Available Power Connectors

MS3102E10SL-4P	
PM38999 PMS38999 (1275B rated)	
Tinned Leads	

1275B Spike and Surge Power Option

The Mil-Standard 1275 is a specification that defines the conditioning of 28VDC power in military vehicles. Obviously a splitter is not designed to condition the power for a vehicle. The 1275B spike and surge option will protect the internal circuits of our device from the same spikes and surges called out in the specification but this is not to be confused with a power conditioning circuit that conditions power for a whole vehicle.

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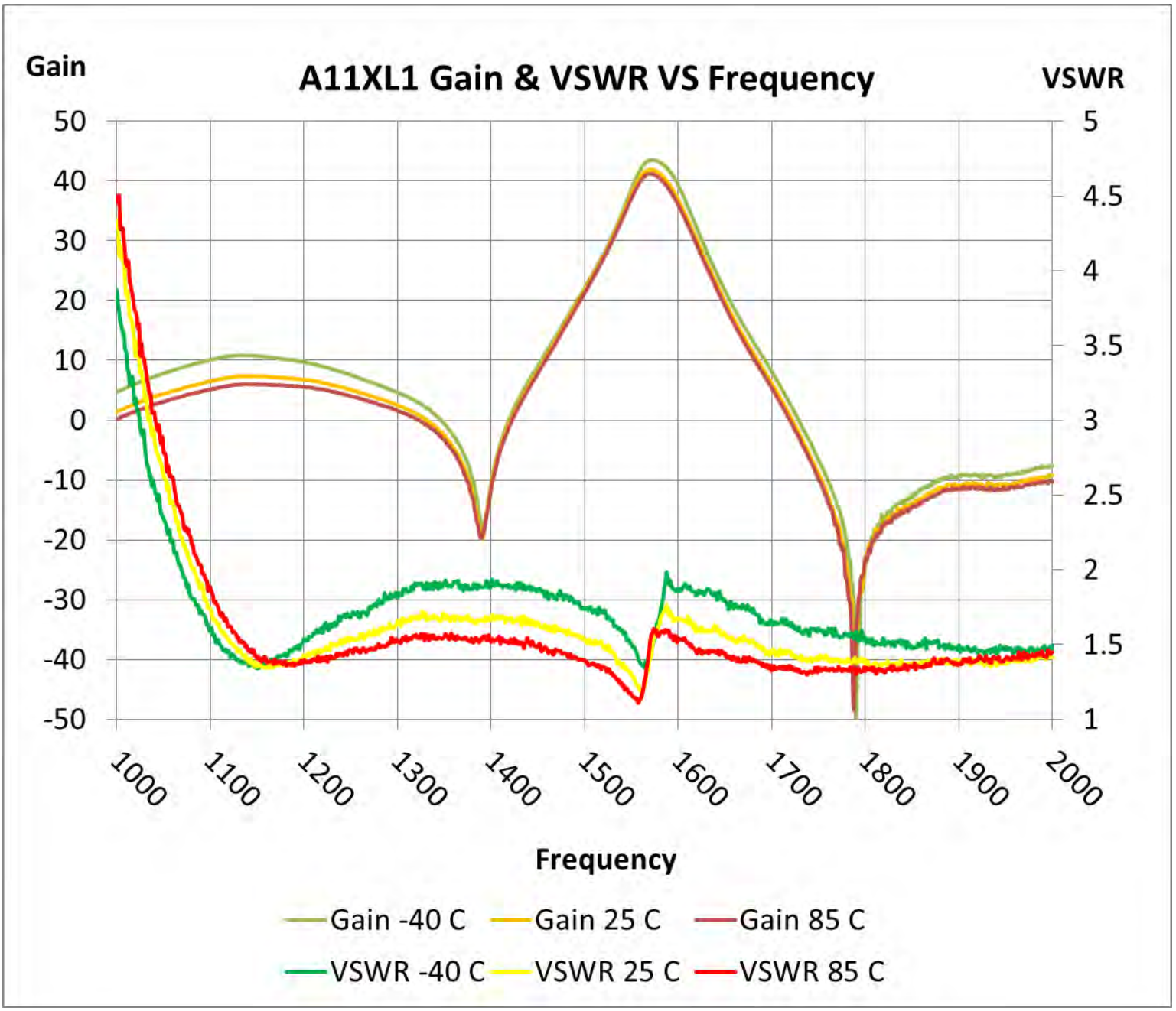
Performance Data



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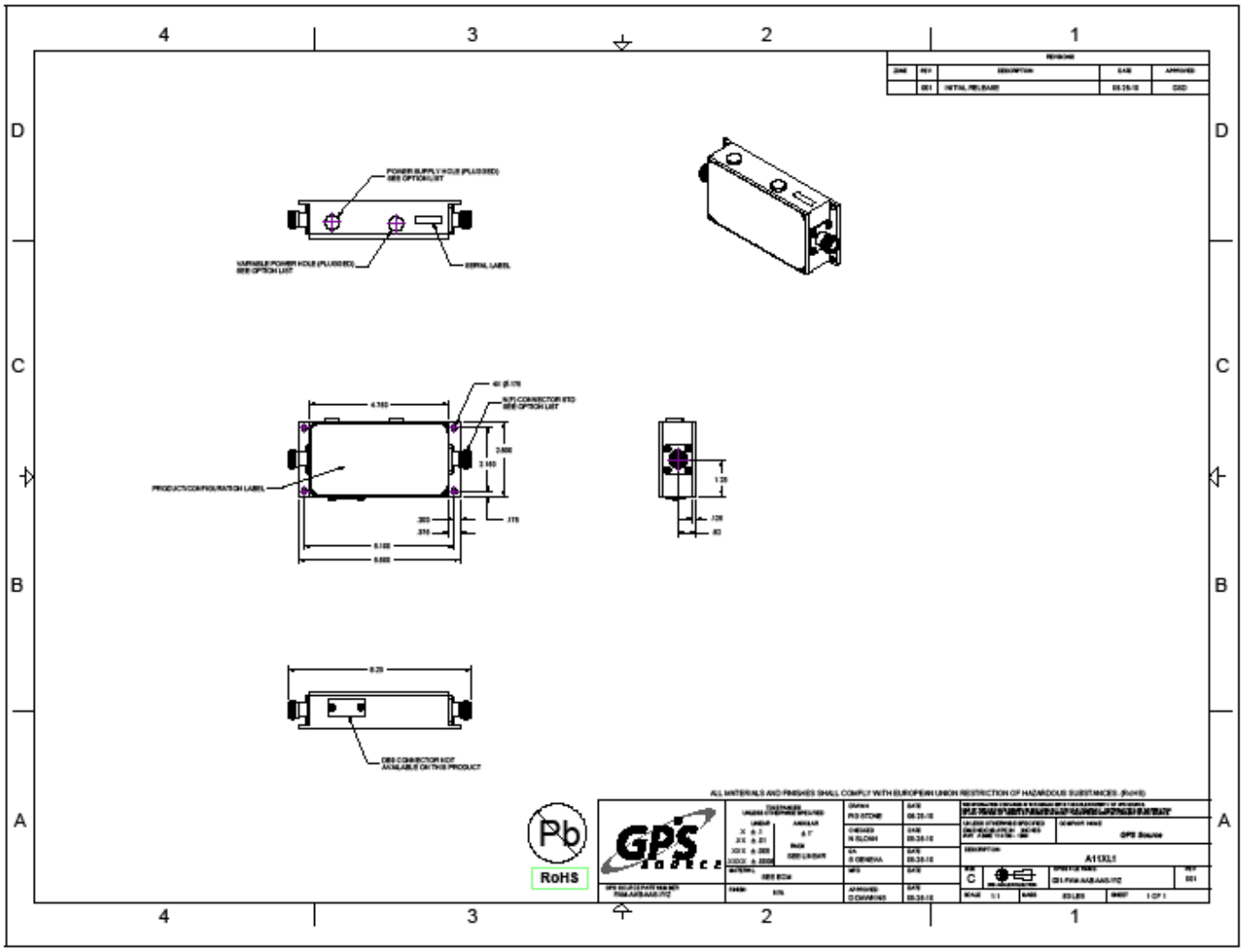
Mechanical:



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Available Options:

Power Supply Options:		
Source Voltage Options	Voltage Input	Type
	110 VAC	Wall Mount Transformer
	220 VAC	Wall Mount Transformer
	240 VAC (U.K.)	Wall Mount Transformer
	DC 5-28 VDC	Military Style Connector or Tinned Leads
Output Voltage Options(1)	DC Voltage Out	
	3.3	
	5	
	7.5	
	9	
	12	
	Variable (3-12V)	
	Custom	
RF Connector Options:		
Connector Options	Connector Type	Limitations
	N (Male & Female)	
	SMA (Male & Female)	
	TNC (Male & Female)	
	SMB (Female)	
	SMC (Female)	
	BNC (Male & Female)	Performance Not Guaranteed
Housing Options:		
Housings	Housing Type	Limitations
	Standard	None

More Notes:

1. With Source voltage option, any or all RF ports (input or output) can be DC Blocked or can pass the powered DC voltage

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Part Number:

A11XL-F1 – XX – E – P110 / 5 – NF

Product:
A11XL-F1

Gain Option:
XX –Custom Gain

Housing Option:
E – EMI Shielding
HS – Hermetically Sealed
W – Water Proof

Source Voltage:
P110 – Transformer,
P220 – Transformer,
P240 – Transformer,
PDC – DC w/Quick Connects
PM – Military Connector (User supplies DC)
PMS – Military Connector (User supplies DC)
& 1275B Compliant

Output Voltage:
3.3, 5, 7.5, 9, 12, XX, V – Denotes Output Voltage
(XX – custom output voltage, V – variable)

Connector Options:
NM – N, Male
NF – N, Female
SM – SMA, Male
SF – SMA, Female
TM – TNC, Male
TF – TNC, Female
BM – BNC, Male
BF – BNC, Female
SB – SMB Jack, Female
SC – SMC Jack, Female

For help in creating the part number to meet your exact needs, contact us at Sales@gpssource.com or visit our website at www.gpssource.com

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