A11 Amplifier

Technical Product Data

Features

- **Excellent Noise Figure**
  F < 1.8dB
- **Excellent Gain**
  G = 30dB
- **Passes GPS, Galileo & GLONASS L1/L2**
- **0dB to 30dB Variable Gain Option Available**

Description

Designed with the thin link margins of satellite navigation systems in mind, the A11 Amplifier is a single stage gain block that covers the GPS, Galileo, and GLONASS frequencies. The device features 30dB of gain and a noise figure of less than 1.8dB. The product may be powered externally with an AC input voltage option, a DC input option, or since the product consumes less than 16mA, it may be powered by the GPS receiver's antenna voltage output. Regardless of the input power configuration, the A11 can provide a DC voltage output to power an active GPS antenna.

The A11 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.

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

Parameter		Conditions	Min	Typ	Max	Units
Freq. Range		IN – OUT, IN/OUT-50Ω	1		2	GHz
In/Out Imped.		IN, OUT		50		Ω
Gain 1227MHz 1575MHz		IN – OUT, IN/OUT-50Ω	 30 30	 32 32	 33 33	dB
Variable Gain Opt. 1227MHz: Max Gain Min Gain: 1575MHz Max Gain Min Gain:		IN – OUT, IN/OUT-50Ω	 28 -4 28 -2	 30 -3 30 0	 32 -1 32 1	dB
Input SWR		OUT Port - 50Ω			2.0:1	-
Output SWR		IN Port - 50Ω			2.0:1	-
Noise Figure[4]		IN – OUT, IN/OUT-50Ω			1.8	dB
Gain Flatness		|L1 – L2|, IN – OUT, IN/OUT-50Ω			2	dB
Group Delay Flatness		$\tau_{d,max} - \tau_{d,min}$, IN – OUT			1	ns
Reverse Isolation		OUT –IN	30			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	Pass DC	Non-Powered Configuration, DC Input on OUT port	3		16	VDC
	Powered	Powered, Mil. Conn. Or Quick Connect Option	3[1]		28[2]	VDC
Device Current		Current Consumption of device, excludes Ant. Cur.			16	mA
Ant/Thru Current	Pass DC	Non-Powered Configuration, DC Input on OUT port			250	mA
	Powered	Powered, Mil. Conn. Or Quick Connect Option			Note 3	mA
Max RF Input		Max RF input without damage			10	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
3. 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:

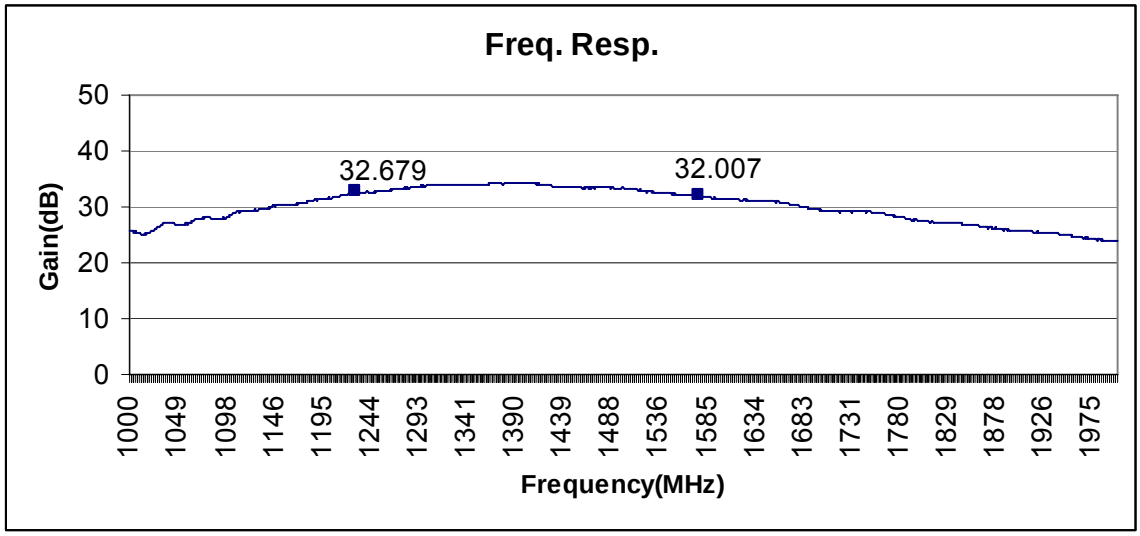
   $$Iout \leq 1.4 / (V_{DC\ IN} - V_{DC\ OUT}) - 0.007 \quad Amps$$

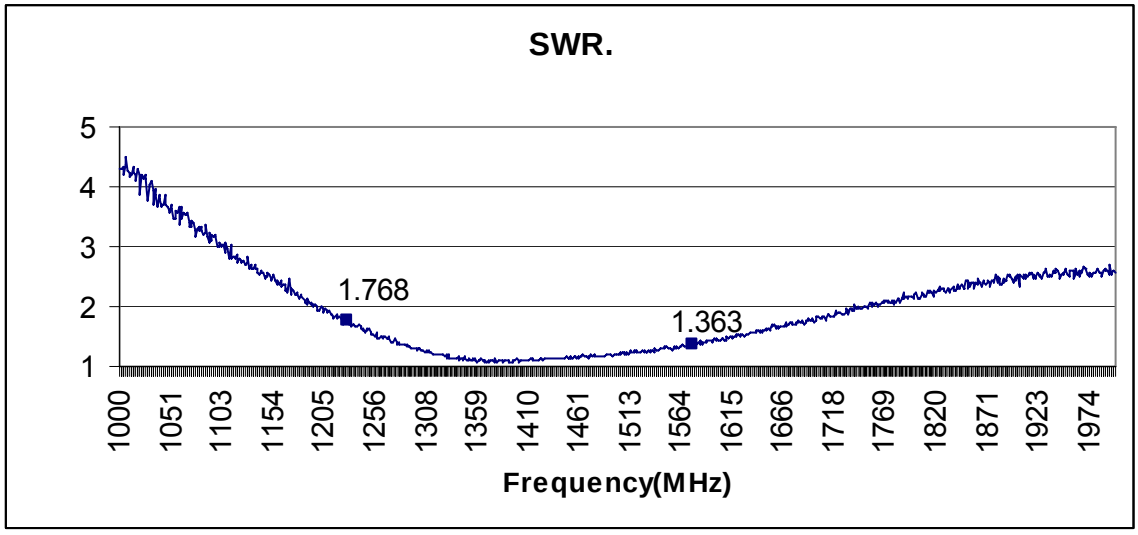
   For powered option with a wall mount transformer (Voltage Input = 110/220/240 VAC), $V_{DC\ IN}$ is 9V.

4. Does not apply to variable gain option at any setting other than max gain

Performance Data:

A11 Amplifier





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 w/Quick Connects
Output Voltage Options(1)	**DC Voltage Out(2)**	
	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)	
	MCX (Female)	
	BNC (Male & Female)	Performance Not Guaranteed
Housing Options:		
Housings	**Housing Type**	**Limitations**
	Standard	None
	Mini,	Powered Option Not Ava.
	Tiny	Powered Option Not Ava. Connectors Not Available: N, TNC, BNC
Port Options:		
Pass DC(1)	IN Port Passes DC	
DC Blocked(1)	IN Port Blocks DC	

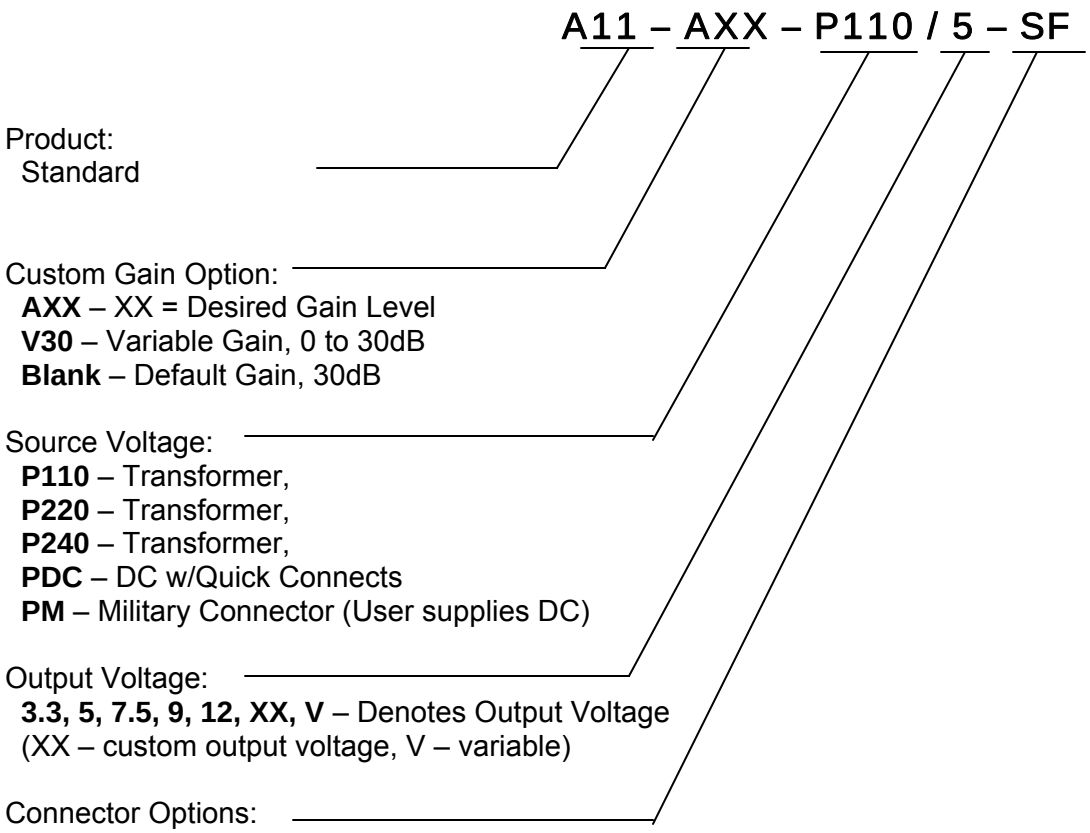
Notes:

1. With 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:

   $Iout \leq 1.4 / (V_{DC\ IN} - V_{DC\ OUT}) - 0.007$ Amps (or 250mA max)

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

Part Number:



Product:
Standard

Custom Gain Option:
AXX – XX = Desired Gain Level
V30 – Variable Gain, 0 to 30dB
Blank – Default Gain, 30dB

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

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
MX – MCX 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.