# *GPSRKXL1 Amplifier*

Technical Product Data

## 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 GPSRKXL1 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 GPSRKXL1 can provide a DC voltage output to power an active GPS antenna.
The GPSRKXL1 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: 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;<br>+/-20MHz<br>+/- 25MHz<br>+/- 50MHz<br>+/- 100MHz<br>+/- 150MHz | | 3<br>4<br>13<br>27<br>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<br>16 | VDC |
| | Pass DC | Powered, Mil. Conn. or Quick Connect Option [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 Quick Connect Option | | | 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.

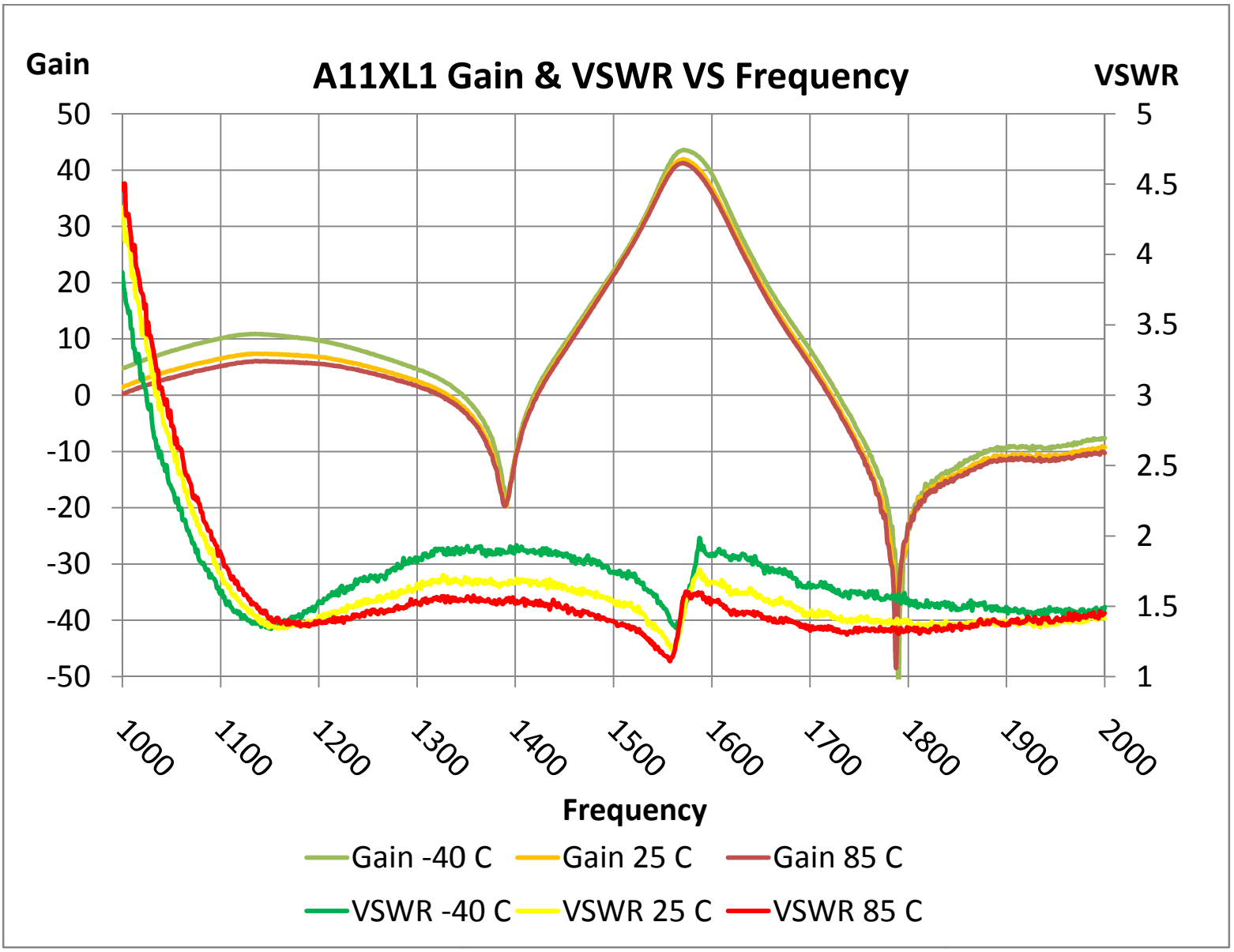
4. Available Power Connectors

| | | | |
|---|---|---|---|
| MS3102E10SL-4P | |  | |
| PM38999<br>PMS38999 (1275B rated) | |  | |
| Quick Connects (Power pole 15Amp contacts) | |  | |

## 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.

**Performance Data:**



## 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** | |
| | 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 |

## 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:

**GPSRKXL1 –XX –W – P110 / 5 – NF-NM**

Product:
GPSRKXL1

Gain Option:
**XX** – Custom Gain

Housing Option:

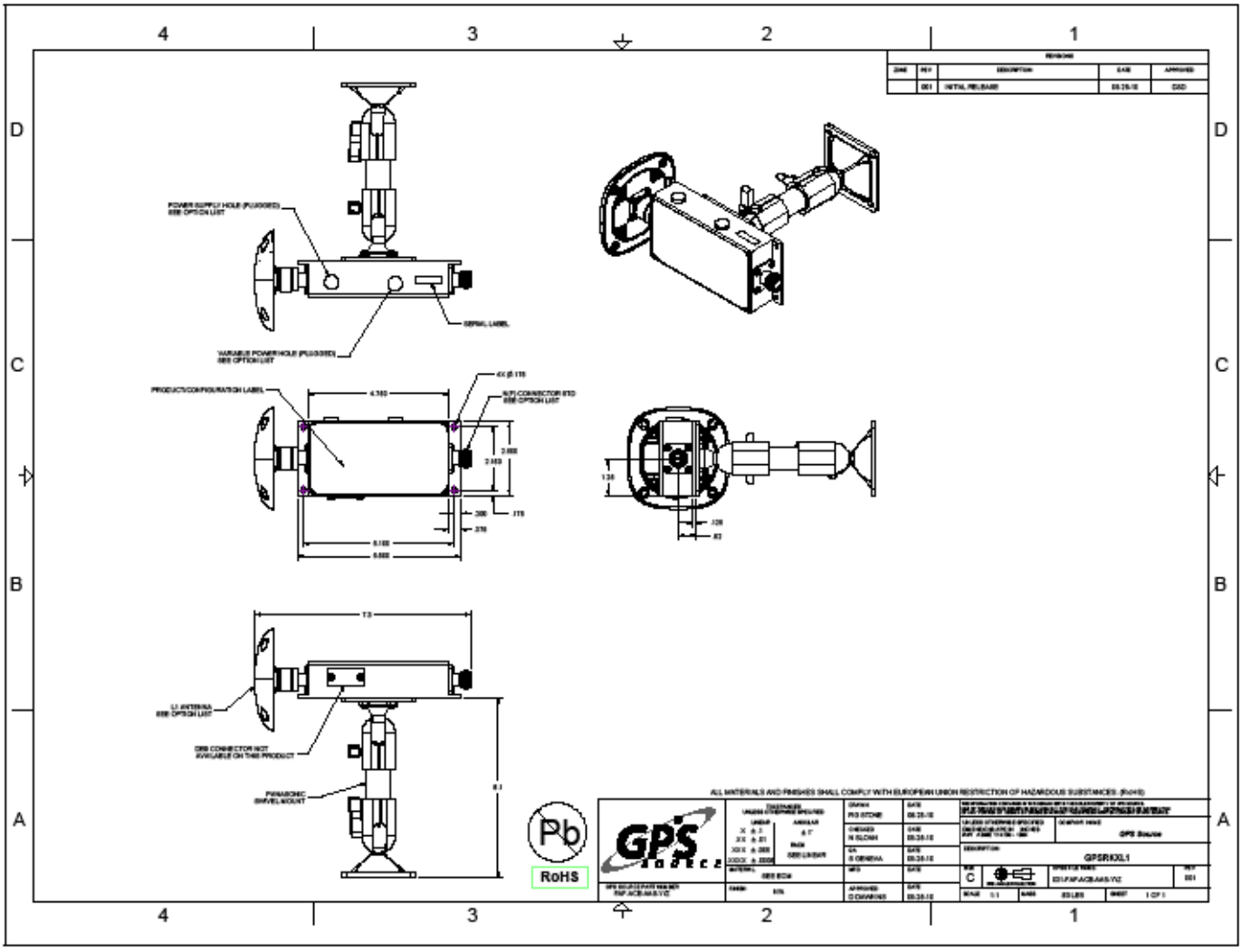
**W** – Water Proof

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

## Mechanical:




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