



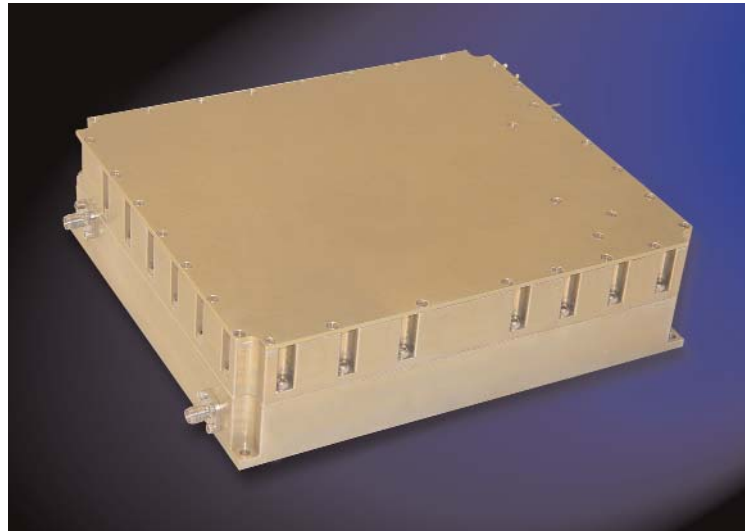
GaN Broadband Power Amplifier

Solid State RF Amplifier

Aethercomm Model Number SSPA 0.020-2.500-50 is a high power, broadband, Gallium Nitride (GaN) RF amplifier that operates from 20 MHz to 2500 MHz. This PA is ideal for broadband military platforms as well as commercial applications because it is robust and offers high power over a multi-decade bandwidth. This amplifier was designed for broad band jamming and communication systems platforms. This amplifier operates with a base plate temperature of 85C with no degradation in the MTBF for the GaN devices inside. It is packaged in a modular housing that is approximately 6.5" (width) by 7.5" (long) by 2.0" (height). This amplifier has a typical P3dB of 50-100 watts at room temperature. Noise figure at room temperature is 8.0 dB typical. This amplifier offers a typical gain of 55 dB with a typical gain flatness of ± 3.0 dB. The power and gain flatness across the band is very flat for the bandwidth. Input VSWR is 2.0:1 maximum. Class AB quiescent current is ~5.0 amps typical employing a +28 Vdc supply. This PA operates from a +28 Vdc input voltage. An option is available to operate this amplifier at +52 Vdc which will increase the efficiency by ~10-12%.

This SSPA includes an external DC blanking command that enables and disables the module in 20 uSec typical. Standard features include over/under voltage protection and reverse polarity protection. The output is fully protected from an open or short circuit presented to this port with no damage. Input/output RF connectors are SMA female. Other connector types can be configured for airborne applications. DC and command voltages are accessible via DC feed through capacitors. Contact the factory with any questions you may have. This amplifier operates

- **Gallium Nitride Broadband Power Amplifier**
- **Operation from 20 MHz to 2500 MHz min**
- **50 to 100 Watts typical**
- **+28 Vdc**
- **20 uSec DC Blanking Time**



from -40C to +85C base plate. Summary test data is found on sheet two of this data sheet. Other gain and power levels are available. Please contact the factory with any specific requirements.

This is an example of an Aethercomm standard product. Aethercomm designs and manufactures high performance, high power CW or pulsed SSPA's for commercial, military and satellite communications customer.

Aethercomm Inc. reserves the right to make changes without further notice. Aethercomm recommends that before these items herein are specified into a system or critical application that the performance characteristics be verified by contacting the factory.

SSPA 0.020-2.500-50 Typical Performance @ 25°C

Freq (MHz)	Small Signal Gain (dB)	P3dB (dBm)	Current @ P3dB from a 28 Vdc Supply (Amps)
20	57.4	48.6	7.7
50	57.6	51.8	13.9
100	58.5	53.0	16.1
250	55.2	52.2	17.2
500	54.0	57.6	16.2
750	52.6	50.7	17.7
1000	51.8	50.0	17.0
1250	50.9	46.9	15.2
1500	48.2	47.2	16.2
1750	50.7	46.3	14.7
2000	53.0	45.2	18.7
2250	49.5	45.8	21.8
2500	48.4	46.3	22.2