



Ultra-Broadband High Power, Solid State Amplifier

SSPA 0.5-2.5-200

Aethercomm Model Number SSPA 0.5-2.5-200 is a high power, decade plus bandwidth, GaN solid state power amplifier. This amplifier continuously covers the full band of 500 MHz to 2500 MHz. It can be commanded on and off in 10 uSecs maximum to control DC power consumption and to gate the RF drive signal. The output power is 200 watts typical at PSat across the band at room temperature. This GaN broadband SSPA is designed to be employed in any system where high power, high efficiency and high linearity are required across a large frequency spectrum. Nominal input drive for full rated Pout is 0 dBm. Small signal gain is ~60 dB. The composite power added efficiency with a CW input is between 35-50% at room temperature with better PAE towards the lower end of the band. Input VSWR is 2.0:1 maximum. The input voltage is +50 Vdc. Standard features include reverse polarity protection, output short and open circuit protection, and over/under voltage protection. All functionality is controlled via external discrete signals applied to the DSUB. Please consult factory regarding the SCD for specifics. Temperature is monitored and reported by this module. This power amplifier module operates from -40°C to +85°C base plate temperature. The amplifier will need to be cooled via conduction to a heat sink.

This module is designed and tested to withstand MIL-STD-810 high shock and vibration requirements. DC and logic connections are accessible via a DSUB connector. The RF input connector is SMA female. The RF output connector is Type N female. A basic summary of operating parameters appears on the next page.

- **Operation from 500 to 2500 MHz minimum**
- **Composite PAE of 35 - 50% across Band**
- **GaN Technology with a Decade of Bandwidth**
- **200 Watts Saturated Output Power typical**
- **Input Drive for Rated Power is ~0 dBm**
- **Volume is 9.0" (l) by 5.0" (w) by 1.5" (h)**



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 customers.

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 0.5-2.5-200

SSPA 0.5-2.5-200 Performance from 500 to 2500 MHz @ 25°C with a CW Input Stimulus

Parameter	Min	Nom	Max	Comments
Frequency (MHz)	500	--	2500	Instantaneous
Output Power (dBm)	--	53.0	--	None
Input Drive (dBm)	--	0	--	None
Small Signal Gain (dB)	--	60	--	None
Applied DC Voltage (Vdc)	48.0	50.0	52.0	None
DC Power (Watts)	--	500	800	None
In Band Harmonics (dBc)	--	-20	-12	None
DC Blanking Time (uSec)	--	5.0	10.0	None
Mass (lbs)	--	--	5.0	--