



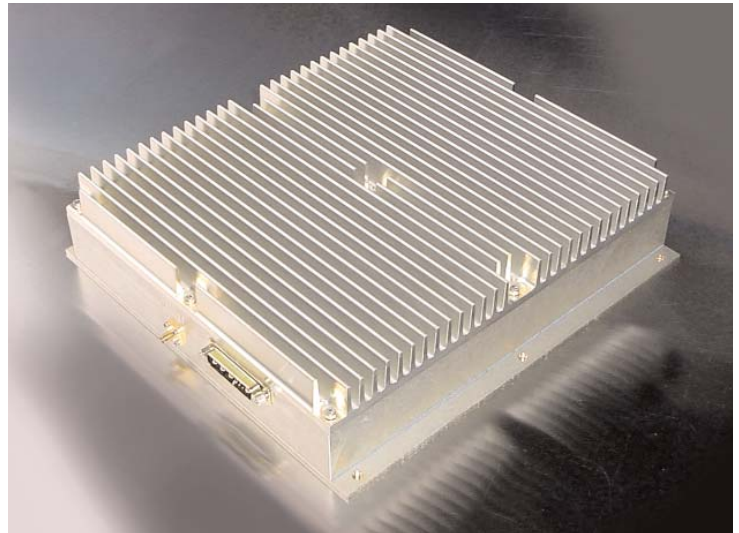
## High Power, Pulsed, X Band Solid State RF Amplifier

Aethercomm P/N SSPA 9.5-9.8-50 is a high power, X band, Solid State Power Amplifier that operates from 9.5 to 9.8 GHz. The peak output power is 50 watts minimum at 25C. Typical small signal gain is 52 dB. Noise Figure is 5.0 dB typical at 25C. Input VSWR is 1.5:1 maximum. Output VSWR is 1.5:1 maximum. This unit is equipped with Aethercomm's proprietary DC switching circuitry that enables and disables the DC-DC circuitry in 1000 nSec maximum. Standard features include reverse polarity protection, output short and open circuit protection, an over-temperature alarm, an integrated DC-DC converter with over/under voltage protection, over-temperature shut-off and a 50 dB coupled output port for forward power sampling. This power amplifier operates from a +28 Vdc power supply with a class A bias of typically 17.5 amps. This unit is also offered as a +12Vdc version. Please contact the factory. This HPA operates from -40C to +65C base plate temperature. This unit exhibits excellent pulse characteristics to include pulse droop, amplitude

### Typical Performance from 9.5 to 9.8 GHz @ 25 C

Parameter	Min	Typ	Max
Small Signal Gain (dB)	47	52	55
Small Signal Gain Flatness (dB)	-	+/-0.5	+/-1.0
Peak Output Power (dBm)	47.0	49.0	50.5
Input Return Loss (dB)	-	-20.0	-14.0
Output Return Loss (dB)	-	-20.0	-14.0
Noise Figure (dB)	-	5.0	7.0
Supply Voltage (Vdc) (Unit comes with a +12 Vdc option)	27	28	29
Quiescent Current Class AB Bias (Amps)	15.5	17.5	20.0
Harmonics (dBc)	-80	-60	-40
DC Switching On Time (nSecs)	-	600	1000
DC Switching Off Time (nSecs)	-	700	1000
2nd Harmonic (dBc)	-	-60.0	-40.0

**Operation across 9.5 to 9.8 GHz**  
**50 watts peak output power minimum**  
**47 dB small signal gain minimum**  
**High speed DC switching circuitry**  
**5.0 dB noise figure typical**



change pulse to pulse, phase change pulse to pulse and linear phase across the pulse.

This SSPA is ideal for X Band Radar and Communication Systems that require high reliability and high power in a rugged and compact module. Standard housing size is approximately 10.5 X 11.0 X 2.77 inches with the heat sink. This PA needs to be heat sunk properly to keep the base plate temperature to +65C maximum. SMA female connectors are standard on all RF ports. DC and command/control signals are accessible via a DC connector. This HPA is environmentally sealed for operation in airborne environment.

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.*