

# 100 – 1000W GaN

DATASHEET

## C-BAND (OUTDOOR)

## SSPA (SOLID STATE POWER AMPLIFIER)

### High linearity that just won't quit

Choose one of our high power hub mount SSPA's for C-Band and you'll receive a value priced solution, when you need it, where you need it, with everything you need.

The Alga series of high power SSPA's are designed for use primarily in satellite communications applications. The operating frequency band of 5.85GHz to 6.425GHz in the standard C-Band. Other frequency ranges are also available to customer specification. These units are characterized by high linearity and high power efficiency, as well as excellent thermal efficiency and dependability over the full operating temperature range.



#### KEY FEATURES

- Operating temperature range of -40°C to +55°C
- Redundancy ready
- Light weight and compact – highest power density on the market
- High thermal dissipation efficiency resulting in “Best in Class” Mean Time Before Failure
- Over temperature shutdown
- High Mean Time Before Failure (MTBF over 100 K hours)
- Monitor & Control Interface
- Serial and Analog M&C
- Internet web page interface
- Alarms: Voltage/Current/Temperature/Summary
- Control: Mute/Gain
- RF power detection

#### MECHANICAL FEATURES

- Fans are environmentally protected (IP55 compliant)
- Fans are field replaceable
- Light weight
- Smallest size

#### OPTIONS

- Frequency range options available
- Remote Control Unit
- 1:1 and 1:2 Redundancy Systems
- Extended Warranty
- Color: Military or other special application

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SALES@ALGA.CA | WWW.ALGA.CA | 1-514-694-8666



# HUB-MOUNTED SSPA's SPECIFICATIONS

## ELECTRICAL CHARACTERISTICS

Frequency Range	5.850 – 6.425 GHz (other options available)		
Gain	70 dB nominal		
Max Input Power w/o Damage	0 dBm		
Gain flatness Over Full Band	± 1.0 dB max		
Gain Slope	± 0.4 dB max / 40 MHz max.		
Gain Variation	± 1.0 dB over max over operating temperature range		
Gain Adjustment Range	20 dB in 0.5 dB steps		
In/Output Return Loss (VSWR)	14 dB min. (1.5:1 max)		
Noise figure at maximum gain	10 dB nominal		
Spurious	-55dBc max @ PLinear		
Harmonics	-40 dBc max @ PLinear		
AM/PM conversion	2.0 degrees/dB max @ PLinear		
Group Delay (per 40 MHz)	Linear	0.01 ns/MHz;	Parabolic 0.003 ns/MHz <sup>2</sup> ; Ripple 1.0 ns p-p
Third order IMD (2 equal tones 5MHz apart)	-25 dBc max. @ PLinear		
Prime Power Voltage	90 – 265 VAC (high power models 190 – 265)		
Prime Power Frequency	47 – 63 Hz		

## INTERFACE

Power	MS Connector
M&C - RS-232/485/Ethernet	MS Connector
Redundancy	MS Connector
Output Interface	CPR 137 G (Other options available)
Input Interface	N-Type Female, 50 Ohms

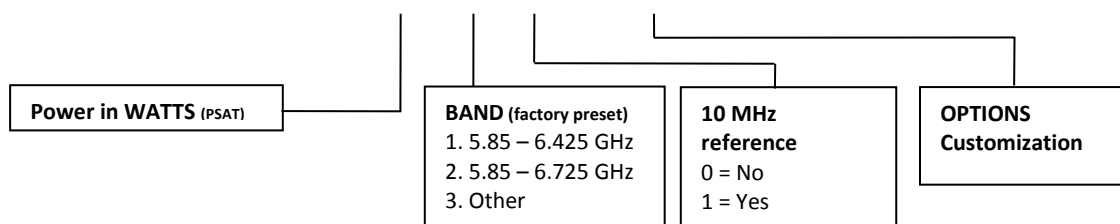
## SPECIFICATION BY SSPA POWER

SSPA POWER PSAT (TYPICAL) (WATTS/dBm)	OUTPUT POWER @ PLinear (PSAT-3dB) (WATTS/dBm)	POWER REQUIREMENT	POWER CONSUMPTION (Watts)	DIMENSIONS (in)	WEIGHT (LBS/KG)
100W / 50	50W / 47	110-220VAC (*1)	900	9.5 x 6 x 6	14.7 / 6.7
125W / 51	60W / 47.5	110-220VAC (*1)	975	9.5 x 6 x 6	14.7 / 6.7
200W / 53	100W / 50	220VAC (*1)	2190	13 x 8.2 x 6.3	27.8 / 12.5
250W / 53.5	125W / 50.5	220VAC (*1)	2100	13 x 8.2 x 6.3	27.8 / 12.5
400W / 56	200W / 53	220VAC	2500	21 x 12 x 6	48 / 21.8
500W / 56.5	225W / 53.5	220VAC	2700	21 x 12 x 6	48 / 21.8
800W / 59	400W / 56	220VAC	5300	18 x 24 x 9.6	99 / 45
1000W / 59.4	450W / 56.5	220VAC	5500	18 x 24 x 9.6	99 / 45

(\*1) 48 VDC isolated optional on 100W – 250W units

**ORDERING INFORMATION** To place an order, build your specific C-BAND SSPA by specifying the following in your ordering number:

Ordering Number: ALPA - G - C - \_ - \_ - \_ - OPTIONS



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