10 – 500 W C-BAND (OUTDOOR) SSPA (SOLID STATE POWER AMPLIFIER)

DATASHEET

SATELLITE COMMUNICATIONS

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 -40ºC to +55ºC
- 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 80 - 200 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 (IP54 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

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 0.1 dB steps
In/Output Return Loss (VSWR)	14 dB min. (1.5:1 max)
Noise figure at maximum gain	10 dB nominal
Spurious at P1dB	-60dBc max
Harmonics at P1dB – 3dB	-50 dBc max
AM/PM conversion	2.0 degrees/dB max (@P1dB)
Group Delay (per 40 MHz)	Linear 0.01 ns/MHz ; Parabolic 0.003 ns/MHz^2 ; Ripple 1.0 ns p-p
Third order IMD (2 equal tones 5MHz apart)	-25 dBc max. @P1dB – 3dB
Prime Power Voltage	90 – 265 VAC (high power models 190 – 265)
Prime Power Frequency	47 – 63 Hz

INTERFACE

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

SPECIFICATION BY BUC POWER

BUC POWER PSAT (TYPICAL) /dBm (WATTS/dBm)	OUTPUT POWER @P1dB (dBm) (WATTS/dBm)	POWER REQUIREMENT	POWER CONSUMPTION (Watts)	DIMENSIONS (in)	WEIGHT (LBS/KG)
10W / 40	10W / 40	110-220VAC (*1)	150	9.5 x 6 x 6	14.7 / 6.7
20W / 43	20W / 43	110-220VAC (*1)	250	9.5 x 6 x 6	14.7 / 6.7
40W / 46	40W / 46	110-220VAC (*1)	375	9.5 x 6 x 6	14.7 / 6.7
60W / 48	50W / 47	110-220VAC (*1)	450	9.5 x 6 x 6	14.7 / 6.7
80W / 49	60W / 48	110-220VAC (*1)	620	13 x 8.2 x 6.3	27.8 / 12.5
100W / 50	80W / 49	110-220VAC (*1)	810	13 x 8.2 x 6.3	27.8 / 12.5
125W / 51	100W / 50	110-220VAC (*1)	950	13 x 8.2 x 6.3	27.8 / 12.5
200W / 53	150W / 52	220VAC	1700	15.4 x 16 x 6	48 / 21.8
250W / 54	200W / 53	220VAC	2000	15.4 x 16 x 6	48 / 21.8
400W / 56	300W / 55	220VAC	3200	18 x 24 x 9.6	99 / 45
500W / 57	400W / 56	220VAC	3600	18 x 24 x 9.6	99 / 45

(*1) 48 VDC isolated optional on 10W – 125W units

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

Ordering Number: ALPA – C - ___ - OPTIONS

Power in WATTS (PSAT)

1. Regular (5.85 – 6.425 GHz)
2. Extended (5.85 – 6.725 GHz)
3. Other