200W-400W X-Band GaN BUC / SSPA

Super High Power Density

Smaller, lighter and more powerful SSPA Series allows significant high power BUC / SSPB / SSPA while substantially improving thermal efficiency, leading to higher reliability and longer MTBF.

Powered by GaN technology, the 200W to 400W X-Band SSPA Series are very compact, light and extremely powerful. Weighing only 56lbs at 400W output power, this new X-band product family is the most powerful and feature rich for its size.

Featuring best in class RF characteristics, true RMS power measurements, extensive monitor and control capabilities enabled via Ethernet, Serial and/or Analog Interfaces. The remarkably compact size and high thermal efficiency results in overall system size and cost reduction making it the ideal candidate for mobile and fixed VSAT applications.

Options

- ALC option
- RX Reject Filter
- Antenna Mounting kit
- 1:1 and 1:2 Redundancy Kit
- Remote Control Panel

Features

- Extremely high power density

– Up to 200W Psat in 15.9” x 9” x 5.2”

– Up to 400W Psat in 18.5” x 13.5” x 10”

- Superior RF performance

– Highest Linearity at small back – off

– Spurious emission below -60 dBc

– Wide range Gain Control

- RF Overdrive Protection
- Extensive M&C capability

– Serial: RS 232 & RS 485

– Ethernet: embedded Web browser (HTTP) & SNMPv3 support

- Built In Output Isolator provides full output VSWR Protection
- Input and output True RMS power detection
- Field upgradable software
- Redundancy ready with no need of external controller
- Status LED
- Analogue Interface

RF Parameters		
RF Frequency Band		7.9 - 8.4 GHz
IF Frequency Range		950 - 1525 MHz
Gain		75 dB minimum, 77 dB typical
Gain Flatness	Over full band	+/-1 dB typical , +/-1.5 dB max
	Over any 40MHz	+/-0.5 dB max
Gain Stability		+/-1.5 dB max over full temperature range
Gain Control		20 dB minimal dynamic range
Linearity at Pout=Plin:	2 tone IMD	-25 dBc max
	Spectral Re-growth	-30 dBc for QPSK at 1 x symbol rate
Input Impedance		50 Ohm
Input/Output VSWR		1.3 : 1
Spurious Emission		-60 dBc Non-signal related / -55 dBc Signal related (at Plin) max
AM/PM conversion at Plinear, ^{0}/dB		1.0deg / dB maximum
Group Delay		Ripple 1 nsec p-p max over any 40 MHz band
RF Monitor Coupling		-50dB typ

BUC Parameters	
LO Frequency	6.95 GHz
Type of Conversion	Single conversion, non – inverting
External Reference Frequency	10MHz multiplexed with IF In
External Reference Required Phase Noise	-130dBc/Hz @ 100Hz; -140dBc/Hz @ 1kHz -150dBc/Hz @ 10kHz; -155dBc/Hz @ 100 kHz

Power & Mechanical	
AC Voltage Range	90–265V AC 50–60Hz auto–ranging; PFC for 200W model 190-265V AC 50-60Hz PFC for 300 and 400W models
Size 200W / 300-400W	15.9"x9"x5.2" / 18.5"x13.5"x10"
Weight 200W / 300-400W	26lbs(12kg) / 56lbs (25kg)
Cooling	Forced Air
Operating Temperature / Relative Humidity	-40°C to +55°C / Up to 100% condensing

Interfaces	
RF Input Connector	Precision N –female
RF Output Connector	CPR112 Grooved
RF Monitor	Precision N –female
AC Power In	3 pin MS style
RS485-RS232-Ethernet-SNMP	MS3112E14-19S

Part Number	Output Power	Prated (dBm/w)	Plinear (dBm/W)	P Cons at Prated	P Cons at Plin
TPA-XB00540-HMS X*	200W	54 / 200	51 / 100	900W	720W
TPA-XB00550-HMS X*	300W	55 / 300	52 / 150	1800W	1500W
TPA-XB00560-HMS X*	400W	56 / 100	53 / 200	2000W	1650W

* 'X' to be replaced by digit dependent on configuration

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.
Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.