100W-500W Ku-Band GaN BUC / SSPA

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 100W to 500W Ku-Band SSPA Series are very compact, light and extremely powerful. Weighing only 18 lbs for 100W to 125W, 32lbs for 150W to 250W and 72 lbs for 300W to 500W this new Ku-band 100W to 500W 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.

Features

- Extremely high power density:

– Up to 125W Psat in 14.2” x 8.4” x 4”
– Up to 250W Psat in 15” x 10” x 7”
– Up to 500W Psat in 18.3” x 14.2” x 10.7”

- Superior RF performance:

– Phase Noise 8 dB better than IESS308/309 recommendation
– Spurious emission below -60 dBc
– Wide range Gain Control
– Highest Linearity at small back – off

- RF overdrive protection

Available in different frequency options
– Standard & Extended Ku-band
– Low Ku-band 12.75-13.25GHz

- 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



Options

- Internal 10 MHz Reference clock
- Autosense 10 MHz Reference clock
- ALC option
- Antenna Mounting kit
- 1:1 and 1:2 Redundancy Kit
- Remote Control Panel

RF Parameters		
RF Frequency Band		14 - 14.5GHz / 13.75 - 14.5GHz / 12.75 - 13.25GHz
IF Frequency Range		950 - 1450MHz / 950 - 1700MHz
LO Frequency		13.05GHz / 12.8GHz / 11.8GHz
Conversion		Single Conversion; non-inverting
Conversion Gain		75dB minimum, 75dB typical
Gain Flatness	Over full band	+/-1dB typical , +/-1.5dB max
	Over any 40MHz	+/-0.5dB max
Gain Stability		+/-1.5dB max over full temperature range
Gain Control		20dB minimal dynamic range
External Reference Frequency		10MHz 0dBm+/-5dB multiplexed with IF In
External Reference Required Phase Noise		10MHz 0dBm+/-5dB multiplexed with IF In
Up-Converter Phase Noise, dBm/Hz		-68dBc/Hz @ 100Hz; -80dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz -95dBc/Hz @ 100kHz; -115dBc/Hz @ 1MHz
Linearity at Pout=Plin:	2 tone IMD	-25dBc max
	Spectral Re-growth	-30dBc for QPSK at 1 x symbol rate
Noise Power Density		-85dBm/Hz in Transmit Band -148dBm/Hz in Receive Band
Spurious Emission		-60dBc Non-signal related / -55dBc Signal related (at Plin) max

Power & Mechanical	
AC Voltage Range	90-265VAC 50-60Hz Auto-Ranging PFC (190-265VAC only for 300W-500W)
Size & Weight	14.2"x8.4"x4" - 18lbs/8.2kg 15"x10"x7" - 30lbs/14kg 18.3"x14"x10.7" - 72lbs/32kg
Cooling	Forced Air
Operating Temperature / Relative Humidity	-40°C to +55°C / Up to 100% condensing

Interfaces	
IF Input Connector	N-type Female
RF Output Connector	WR75 grooved
M&C Interface-Serial, Analog and Ethernet	MS3112E14-19S
AC Power In	MS3112E12-3P
Redundant Interface	MS3112E14-19P

Part Number*	Prated (dBm/w)	Plinear (dBm/W)	P Cons at Prated
TPB-KXB0500-HMS X	50/100	47/50	600W
TPB-KXB0510-HMS X	51/125	48/60	630W
TPB-KXB0530-HMS X	53/200	50/100	1000W
TPB-KXB0540-HMS X	54/250	51/125	1200W
TPB-KXB0550-HMS X	55/300	52/150	2000W
TPB-KXB0560-HMS X	56/400	53/200	2300W
TPB-KXB0570-HMS X	57/500	54/250	2400W

*Please request specific Part Number for your desired frequency band option.

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.