

2.7-3.1GHz/500Watts/Rack Mount

Model Number: KNP2900S57A

The KNP2900S57A is a rack-mountable unit incorporating a universal voltage power supply and a built in forced air-cooling system. This amplifier subsystem utilizes GaN power device that provides excellent power density, high efficiency, low distortion and wide dynamic range. Due to robust engineering and employment of advanced broadband RF matching networks, combining techniques and qualified components, the amplifier achieves consistent performance with field proven reliability.

FEATURES:

- High power
- High Efficiency
- Extraordinary Harmonic Control
- Smaller Size and Lighter Weight
- Low Distortion

ELECTRICAL SPECIFICATIONS @ 220VAC, 25°C, PD=50μS, DC=10% ,50Ω System

Parameter	Symbol	Minimum	Typical	Maximum	Units
Operating Frequency	BW	2700		3100	MHz
Output Power (Typical 50Usec, 10%)	PPK		500		Watt
Power droop	Droop		1		dB
Duty Cycle	Duty Cycle			20	%
Pulse Width	PWIDTH	2		100	uS
PRI	PRI	70		1000	uS
Harmonics @ Pout = 300W	H		-15		dBc
RF Input Power(@ Pout = 500W)	Pin		0		dBm
Rise /Fall time (Pulse Performance)(10-90)	TRISE/FALL/OFF		100		nS
Switching Speed	TON/OFF		2		uS
Input Return Loss	S ₁₁			-10	dB
In/Output Impedance	Impedance		50		Ω
Spurious Signals	Spur		-55		dBc
Operating Voltage (@50/60Hz)	VAC	180	220	240	Volt
Power Consumption @ 500W	PD		500		Watt

MECHANICAL

Parameter	Value	Limits
Dimensions (W x H x D) – Bench Top / Rack Mount	482.6 x 177 x445 mm [19x6.97x17.5 inch] (4U)	Max
Weight	30kg [66 lbs]	Max
RF Connectors Input /Output	In: Type-N, Female; Output: In: Type-N, Female	
Cooling	Built-in internal forced air cooling system	

ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Minimum	Typical	Maximum	Units	Notes
Operating Ambient Temperature	-20		50	°C	
Storage Temperature	-45		85	°C	
Relative Humidity (non-condensing)			95	%	

Focus on Your Application

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Specifications subject to change without notice

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ABSOLUTE MAXIMUM RATING

Input RF drive level without	+5 dBm (Max)
VSWR protection@200W	@ 3:1- PA output power will degrade to a safe operation level, and system will still work.
Thermal Overload	Power will Gracefully Degrade, when Ambient Temp >85°C

AVAILABLE OPTIONS (Selected options refer to the factory)

Pin #	Description	Specifications
RS422	Serial management of device / local operator access	D-Sub 9-Pin, Male
Status Monitor	LCD Controller	Digital Display, including FWD/REV Power indication (dBm or Watt scale), Standby mode, Fault indication
WAN	Serial management of device / local operator access	Internet access

I/O CONNECTOR-Monitor Display or RS422

Pin #	Description	Specifications
1	ENABLE	Amplifier Enable: TTL Logic High (3.3V-5V) (Internally Pulled-Low)
2	TEMP SENSE	Analog voltage relative to temperature@0.5V+10mV /°C
3	ALARM	Amplifier Alarm indicator: Normally TTL Low
4	Reserved	Reserved
5	RS422-T+	Transmit data-TxD
6	RS422-T-	Transmit data-TxD
7	RS422-R+	Transmit data-RxD
8	RS422-R-	Transmit data-RxD
9	GND	GND

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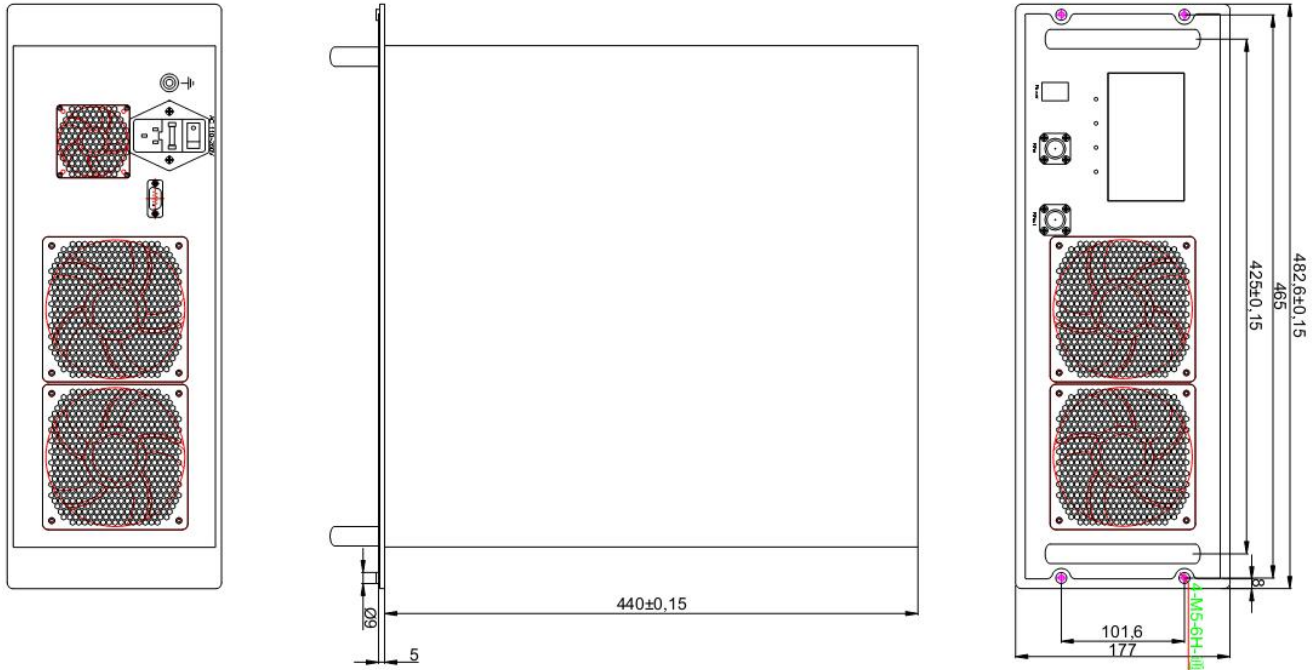
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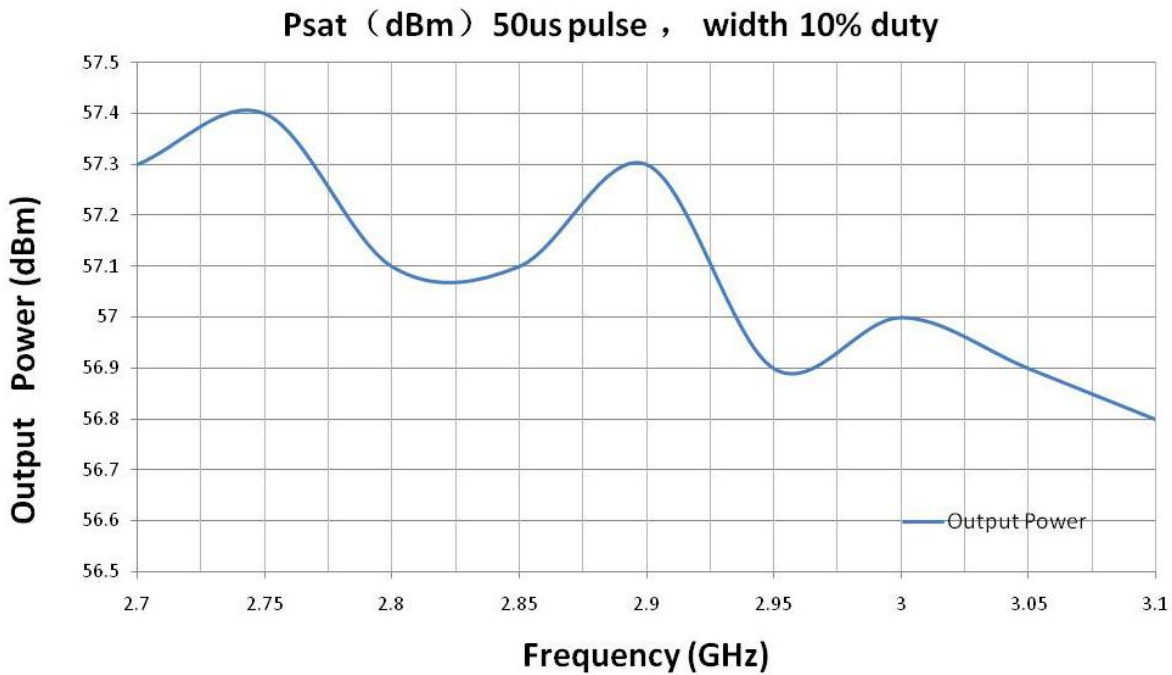
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OUTLINE DRAWING (All dimensions in mm)



TYPICAL PERFORMANCE PLOTS (For reference only)



Note: Adequate heat sink required.

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