

2.7-3.1GHz/2000Watt/Module

Model Number: KNP2900M63A

KNP2900M63A is an S-band high power pulsed amplifier operating in the 2.7GHz-3.1GHz frequency range and offering pulse width up to 10μs with duty cycle up to 10%. The amplifier provides 2000 Watts peak output power into a 50 Ohm load. The employment of gallium nitride (GaN) in manufacturing ensures this module state-of-the-art power performance with excellent power-to-volume ratio. It is ideal for high power pulse applications or radar system.

FEATURES:

- Small size and light weight
- Power added efficiency > 15%
- Pulse width&duty cycle protection
- Over voltage&over current protection

ELECTRICAL SPECIFICATIONS @ +50.0VDC, 25°C, 10μS, 10%, 50Ω

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	2.7		3.1	GHz
RF Output Power	PPK		2000		Watt
Duty Cycle	Duty Cycle			10	%
Pulse Width	PWIDTH	0.5		100	μS
PRI	PRI	50		1000	μS
Harmonics @ Pout = 1000W	H		-30		dBc
Spurious Signals	Spur		-55		dBc
RF Input Power @ Pout = 2000W	PIN		0		dBm
Input Return Loss	S ₁₁		-10		dB
Rise /Fall time (Pulse Performance)(10-90%)	T _{RISE/FALL}		100		nS
Switching Speed	T _{ON/OFF}		2		μS
Power droop	Droop		1	1.8	dB
In/Output Impedance	Impedance		50		Ω
Operating Voltage	V _{DC}	48	50	52	Volt
Peak Current Consumption @ Pout = 2000W	I _{DD}			120	Amp
Average Current Consumption @ Pout = 2000W	I _{DD}		24		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	300x280x25 [11.81x11.02x0.98]	mm [inch]	Max
Weight	6 [13.2]	kg [lb]	Max
RF Connector Input	SMA, Female		
RF Connector Output	Type-N, Female		
DC Interface Connector	Hybrid, D-Sub 7-Pin, Male		
Cooling	External Heatsink Required (Optional supplying)		

ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Minimum	Typical	Maximum	Units	Notes
Operating Temperature	-40		60	°C	
Non-operating Temperature	-45		85	°C	Storage
Relative Humidity (non-condensing)			95	%	

Focus on Your Application

Chengdu KeyLink Wireless Technology Co., Ltd.

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Specifications subject to change without notice

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ABSOLUTE MAXIMUM RATING

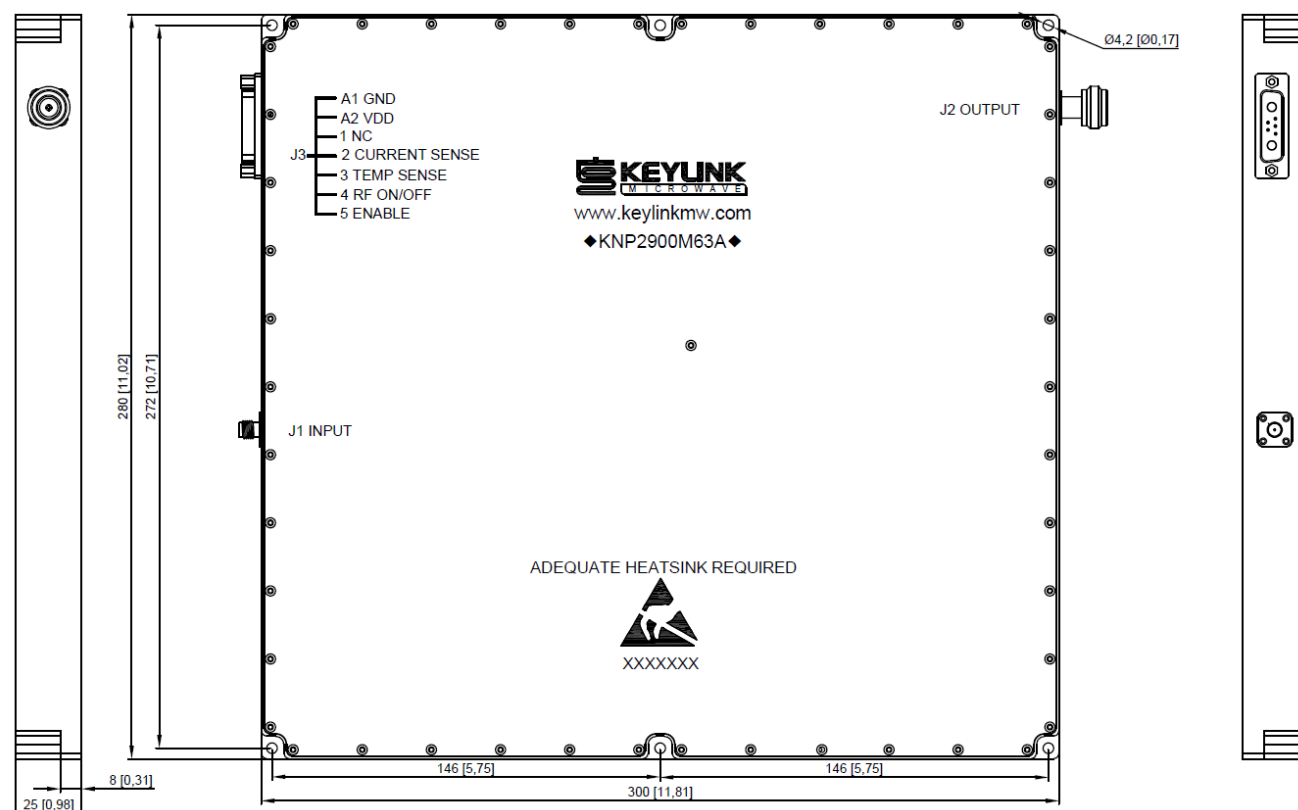
Input RF drive level without damage	+5 dBm (Max)
Load VSWR @ POUT =500W	∞ @ all load phase & amplitude for duration of 1minute; 3:1 @ all load phase & amplitude continuous
Over Temperature	85°C @ heatsink [restored @ 60°C]

DC INTERFACE CONNECTOR

Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	50VDC
1	ALARM	Amplifier Alarm indicator: Normally TTL Low
2	CURRENT SENSE	Analog voltage relative to IDD @ 100mV±10% per Ampere
3	TEMP SENSE	Analog voltage relative to Module's Temperature @ 0.5V+10 mV/°C
4	RF ON/OFF	RF On: TTL Logic High (3.3V)
5	Enable	Amplifier Enable: TTL Logic High (Internally Pulled-Low)

*The temperature sense accuracy is ±10℃

OUTLINE DRAWING (All dimensions in mm [inch])



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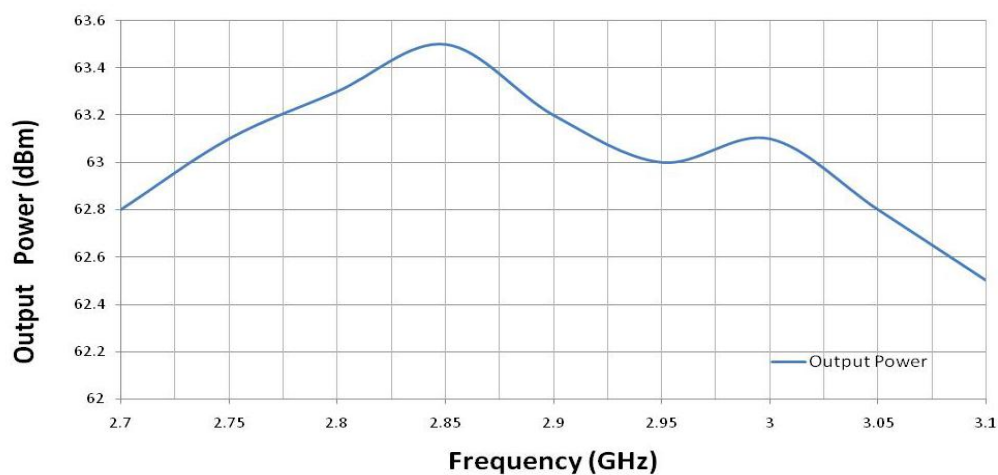
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TYPICAL PERFORMANCE PLOTS (For Reference Only)

**Note:**

1. Adequate heatsink required.
2. This product will be developed upon contract/order. All the above specs are for reference only. Actual product may be different. Please check with KeyLink sales team if you have any questions.

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