

8.9-9.6GHz/100Watt/Module

Model: KNP9200M50A

Model KNP9500M50A is an X-band high power pulsed amplifier operating in the 8.9 to 9.6 GHz frequency range and offering pulsed width up to 50µs with duty cycle up to 15%. The amplifier provides in excess of 100Watts peak output power into a 50 Ohm load. The employment of gallium nitride (GaN) and chip-and-wire technology 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 > 10%;
- Digital interface option;
- Forward and reflected power coupling ports;
- pulse width/duty cycle protection;
- Over voltage, and over current protection.

ELECTRICAL SPECIFICATIONS @ +44.0VDC, 25°C, 10µS, 10%, 50Ω System

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	8.9		9.6	GHz
RF Output Power	PPK		100		Watt
Duty Cycle	Duty Cycle			15	%
Pulse Width	PWIDTH	2		50	µS
PRI	PRI	70		1000	µS
Harmonics @ Pout =80W	H		-35		dBc
Spurious Signals	Spur		-55		dBc
RF Input Power @ Pout =100W	PIN	-1	0	1	dBm
Input Return Loss	S11		-10		dB
Rise /Fall time (Pulse Performance)	TRISE/FALL/OFF(10-90)		50		nS
Switching Speed	TON/OFF		2	5	µS
Power droop	Droop		0.5		dB
In/Output Impedance	Impedance		50		Ω
Operating Voltage	VDC	42	44	46	Volt
Peak Current Consumption @ Pout =100W	IDD			10	Amp
Average Current Consumption @ Pout =100W	IDD		5		Amp
Power Added Efficiency	Efficiency		15		%

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	180x 125 x25 [7.08x4.92x0.98]	mm [inch]	Max
Weight	3[6.6]	kg [lb]	Max
RF Connectors Input	Type-SMA, Female		
RF Connectors Output	Type-SMA, 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	-25		60	°C	
Non-operating Temperature	-30		65	°C	Storage
Relative Humidity (non-condensing)			95	%	

Focus on Your Application

Chengdu KeyLink Microwave Technology Co., Ltd.

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Specifications subject to change without notice

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Model: KNP9200M50A

Absolute Maximum Rating

Input RF drive level without damage	+10 dBm (Max)
Load VSWR @ POUT =60W	∞ @ all load phase & amplitude for duration of 1 minute; 3:1 @ all load phase & amplitude continuous
Over Temperature	85°C @ heatsink [restored @ 60°C]

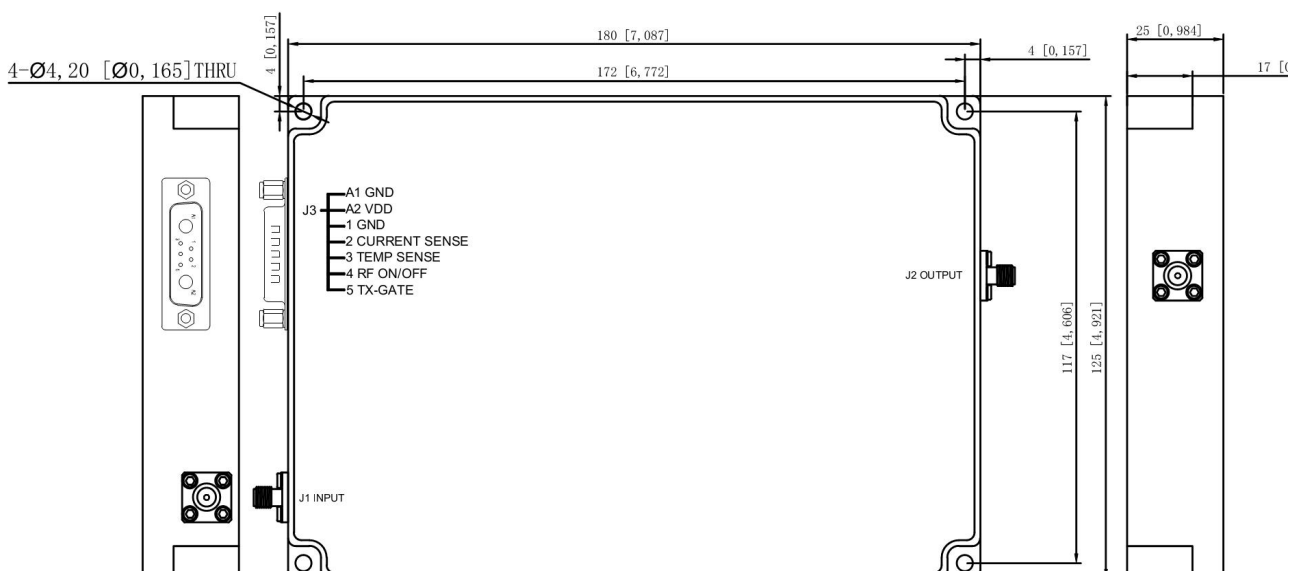
DC INTERFACE CONNECTOR

Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	24VDC
1	RF ON/OFF	RF On: TTL Logic High (2.8-5.5V) Amplifier Radiate / To forbid radiate
2	TX-GATE	TX-GATE On: TTL Logic High (2.8-5.5V) Amplifier Standby / operating
3	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
4	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
5	GND	Ground

PROTECTION AND WARNING FUNCTION

- Over threshold of VSWR (High VSWR)
- Over threshold of duty cycle (High duty cycle)
- Over threshold of current
- Over threshold of temperature

OUTLINE DRAWING (All dimensions in mm [inch])



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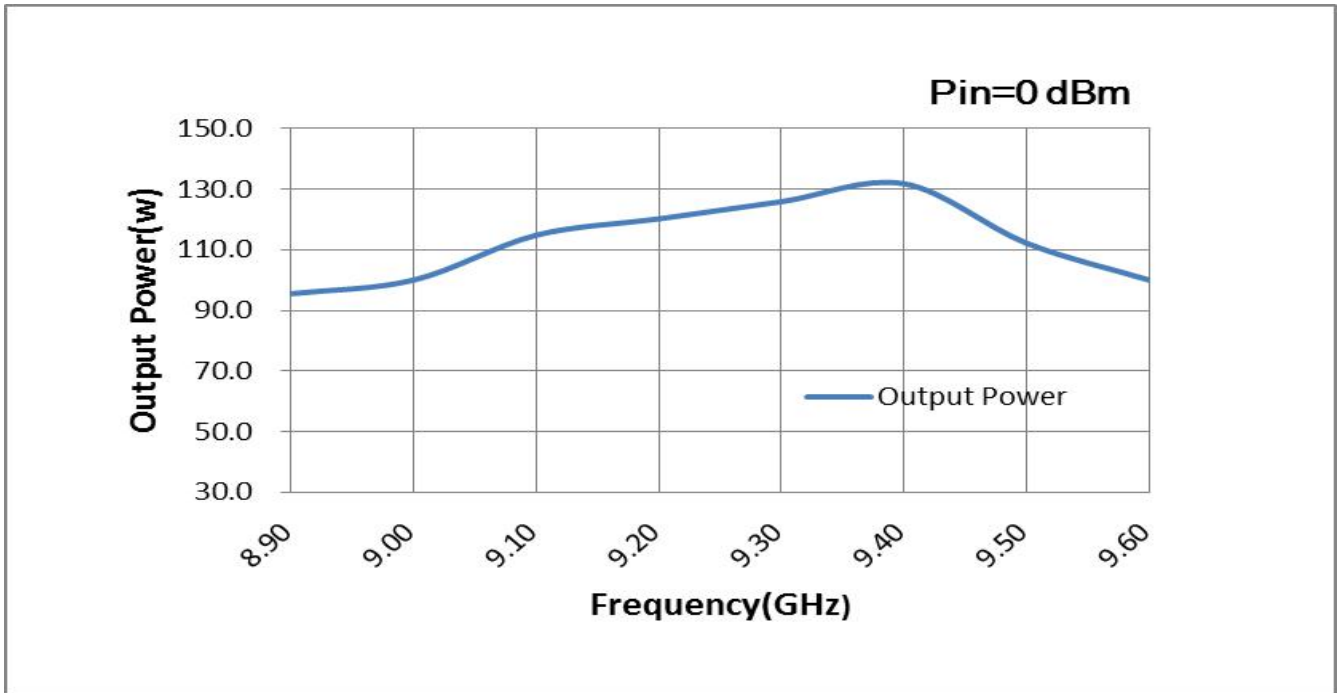
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TYPICAL PERFORMANCE PLOTS(For Reference Only)



Note:

1. Adequate heat sink 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 question.

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