

## 9-10GHz/100Watt/Module

Model Number: KNP9500M50A

Model KNP9500M50A is an X-band high power pulsed amplifier operating in the 9 to 10 GHz frequency range and offering pulsed width up to 100 $\mu$ s 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 module.

### 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 @ +28.0VDC, 25°C, 10 $\mu$ s, 10%, 50 $\Omega$

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	9		10	GHz
RF Output Power	PPK		100		Watt
Duty Cycle	Duty Cycle			15	%
Pulse Width	PWIDTH	2		100	$\mu$ S
PRI	PRI	70		1300	$\mu$ S
Harmonics @ Pout =80W	H		-40		dBc
Spurious Signals	Spur		-55		dBc
RF Input Power @ Pout =100W	PIN	-1	0	1	dBm
Input Return Loss/ Output Return Loss	S11/ S22		-10		dB
Rise /Fall time (Pulse Performance)	TRISE/FALL/OFF(10-90)		50		nS
Switching Speed	TON/OFF		2	5	$\mu$ S
Power droop	Droop		0.5		dB
In/Output Impedance	Impedance		50		$\Omega$
Operating Voltage	VDC	26	28	32	Volt
Peak Current Consumption @ Pout =100W	IDD			15	Amp
Average Current Consumption @ Pout =100W	IDD		5		Amp
Power Added Efficiency	Efficiency		15		%

### MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	200x 125 x25 [7.87x4.92x0.98]	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 17-Pin, Male		
Cooling	External Heatsink Required (Optional supplying)		

### ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Minimum	Typical	Maximum	Units	Notes
Operating Temperature	0		55	°C	
Non-operating Temperature	-10		60	°C	Storage
Relative Humidity (non-condensing)			95	%	

## Focus on Your Application

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Specifications subject to change without notice

9-10GHz/100Watt/Module

Model Number: KNP9500M50A

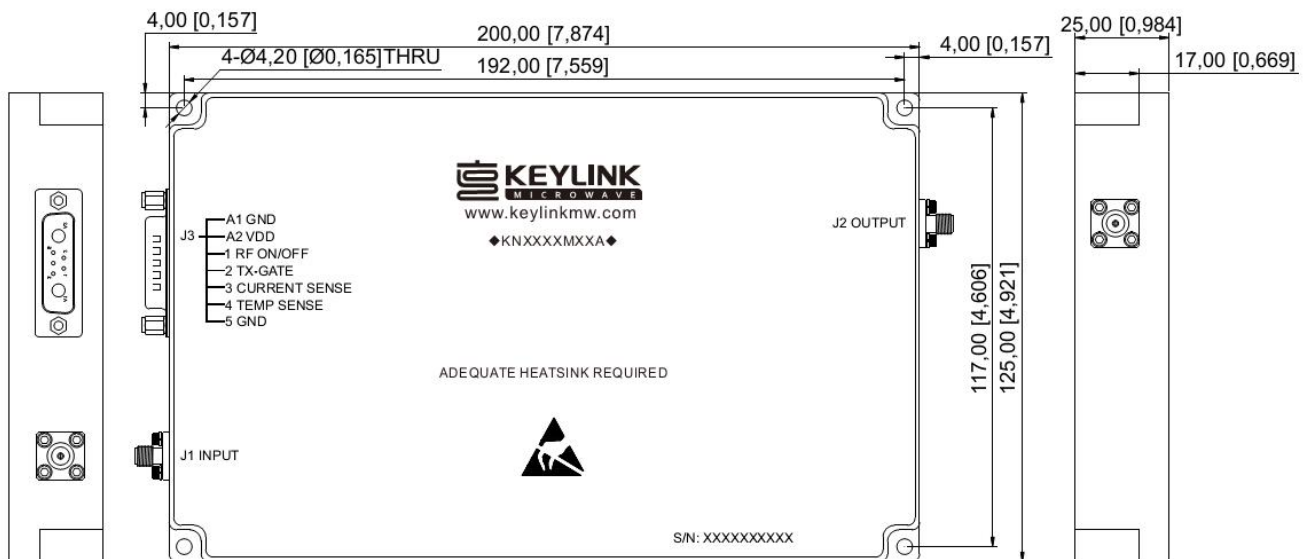
**Absolute Maximum Rating**

Input RF drive level without damage	+5 dBm (Max)
Load VSWR @ POUT =80W	5:1 @ 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	28VDC
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

**OUTLINE DRAWING (All dimensions in mm [inch])**



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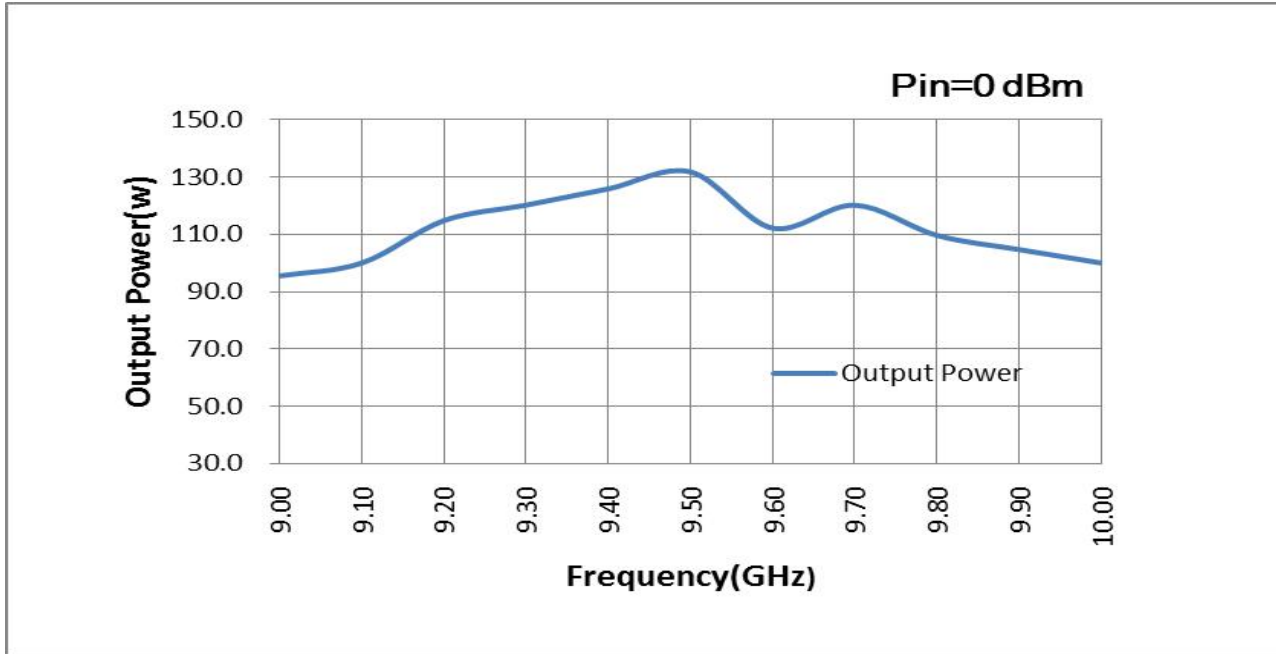
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TYPICAL PERFORMANCE PLOTS (for reference)



**Note:** Adequate heat sink required.

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