

1.2-1.4GHz/1000Watt/Module

Model: KNP1300M60A

Model KNP1300M60A is an L-band high power pulsed amplifier operating in the 1.2 to 1.4GHz frequency range and offering pulsed width up to 100µS with duty cycle up to 10%. The amplifier provides in excess of 1000Watts peak output power into a 50 Ohm load. The employment of (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 >15%
- Pulse width & duty cycle protection
- Over voltage & over current protection

ELECTRICAL SPECIFICATIONS @ +50.0VDC, 25°C, 100µS, 10%, 50Ω System

Parameter	Symbol	Min	Typ.	Max	Units
Operating Frequency	BW	1.2		1.4	GHz
RF Output Power	PPK		1000		Watt
Duty Cycle	Duty Cycle			10	%
Pulse Width	PWIDTH	2		100	µS
Harmonics @ Pout = 500W	H		-40		dBc
Spurious Signals	Spur		-60		dBc
RF Input Power @ Pout = 1000W	PIN		0		dBm
Input Return Loss	S11		-15		dB
Rise /Fall time (Pulse Performance) (10-90%)	TRISE/FALL		100		nS
Switching Speed	TON/OFF		2	5	µS
Power droop	Droop		1		dB
In/Output Impedance	Impedance		50		Ω
Operating Voltage	VDC		50		Volt
Peak Current Consumption @ Pout = 1000W	IDD			40	Amp
Average Current Consumption @ Pout = 1000W	IDD		6		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	260x240x30 [10.23x9.45x1.18]	mm [inch]	Max
Weight	4[8.8]	kg [lb]	Max
RF Connectors Input	SMA, Female		
RF Connectors 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	-50		75	°C	Storage
Relative Humidity (non-condensing)			95	%	

Focus on Your Application

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Specifications subject to change without notice

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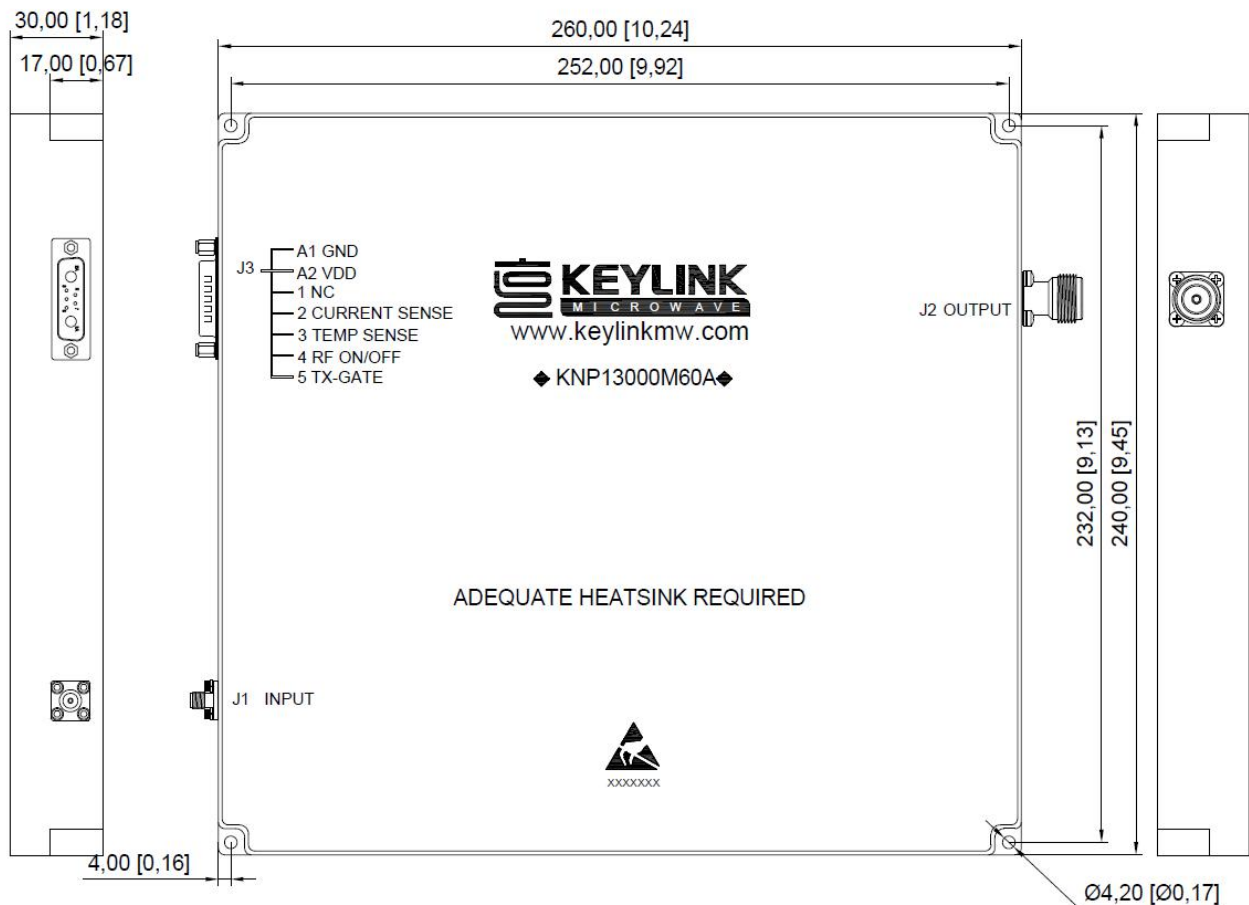
ABSOLUTE MAXIMUM RATING

Input RF drive level without 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	+50.0VDC
1	NC	No Connection
2	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
3	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
4	RF ON/OFF	RF On: TTL Logic High (3.3V)
5	TX-GATE	TX-GATE On: TTL Logic High (2.8-5.5V) Amplifier Standby

OUTLINE DRAWING (All dimensions in mm [inch])



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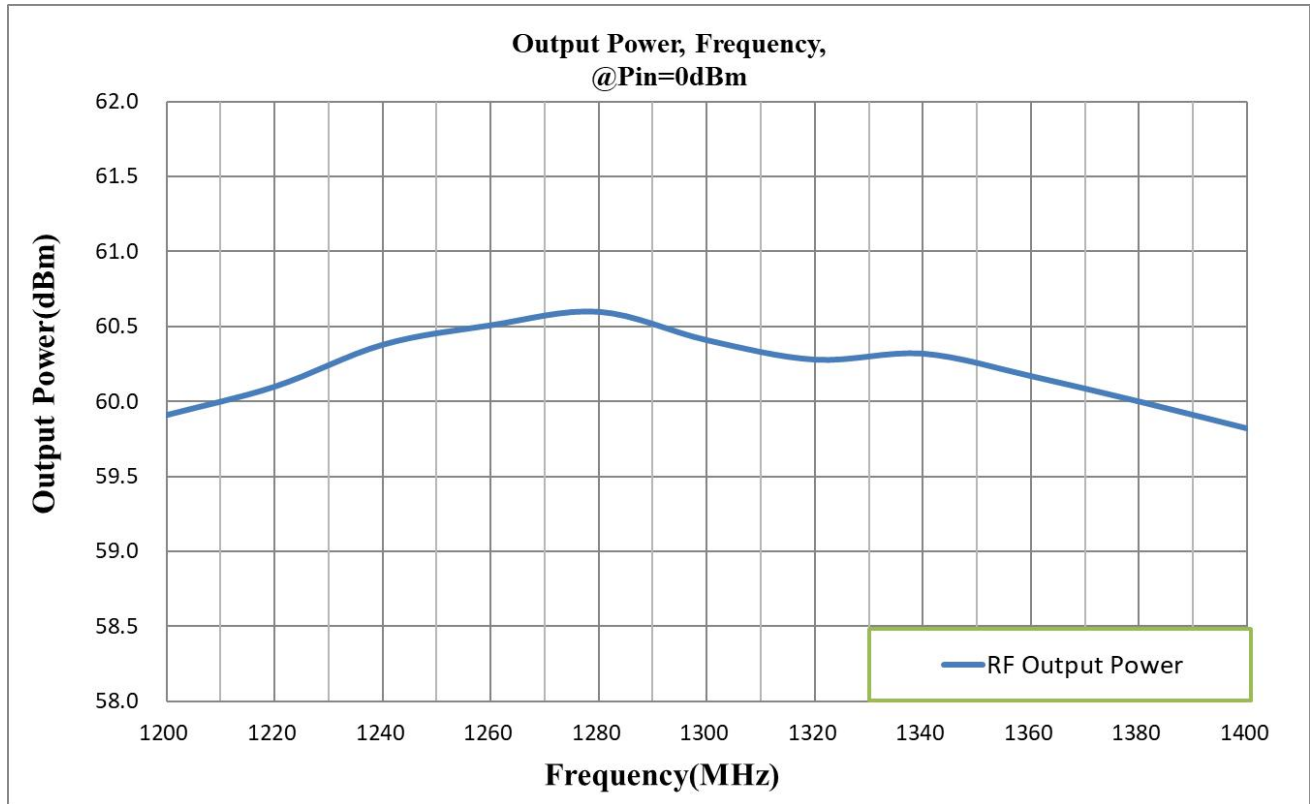
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TYPICAL PERFORMANCE PLOTS (For reference only)



Note: Adequate heatsink required.

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