

8-11GHz/100Watt/Module

Model: KBP80110M50A

Model KBP80110M50A is an X-band high power pulsed amplifier operating in the 8 to 11 GHz frequency range and offering pulsed width up to 100 μ 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 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 @ +30.0VDC, 25°C, 10 μ S, 10%, 50 Ω System

Parameter	Symbol	Min.	Typ.	Max.	Units
Operating Frequency	BW	8		11	GHz
RF Output Power	PPK	80	100		Watt
Duty Cycle	Duty Cycle			15	%
Pulse Width	PWIDTH	2		100	μ S
PRI	PRI	70		1300	μ S
Harmonics @ Pout =80W	H		-35		dBc
Spurious Signals	Spur		-55		dBc
RF Input Power @ PSAT	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	μ S
Power droop	Droop		0.8		dB
In/Output Impedance	Impedance		50		Ω
Operating Voltage	VDC	28	30	32	Volt
Peak Current Consumption @ Pout =150W	IDD			15	Amp
Average Current Consumption @ Pout =150W	IDD		8		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	180x 125 x25 [7x4.9x0.98]	mm [inch]	Max
Weight	2 [4.4]	kg [lb]	Max
RF Connectors Input	Type-SMA, Female		
RF Connectors Output	Type-N, 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

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Absolute Maximum Rating

Input RF drive level without damage	+10 dBm (Max)
Load VSWR @ POUT =80W	∞ @ 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	30VDC
1	RS232(-)	Transmit data-R x D
2	GND	Ground
3	UNIT RESET	Amplifier Reset: TTL Logic High (2.8-5.5V)
4	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
5	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
6	RF ON/OFF	RF On: TTL Logic High (2.8-5.5V) Amplifier Radiate / To forbid radiate
7	TX-GATE	TX-GATE On: TTL Logic High (2.8-5.5V) Amplifier
8	RS232(+)	Transmit data-TxD
9	FORWARD MONITOR	Analog voltage relative to forward power level
10	NC	No electrical connection
11	REFLECTED POWER	Analog voltage relative to reflected power level
12	VOLTAGE MONITOR	Analog voltage relative to voltage level
13	ALARM	Alarm on @ Low output power.: TTL Logic High (2.8-5.5V)
14	GND	Ground
15	N/C	No electrical connection

MONITORING PARAMETERS FUNCTION VIA RS232

Forward power

Reflection power

Current of power supply

Temperature

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

Warning low RF output power

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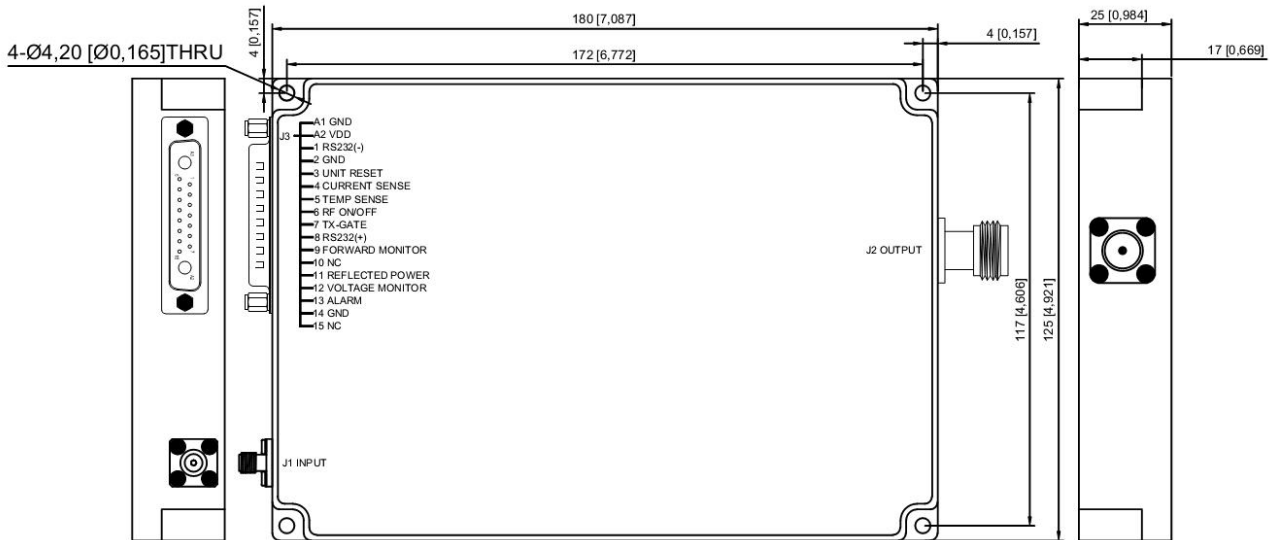
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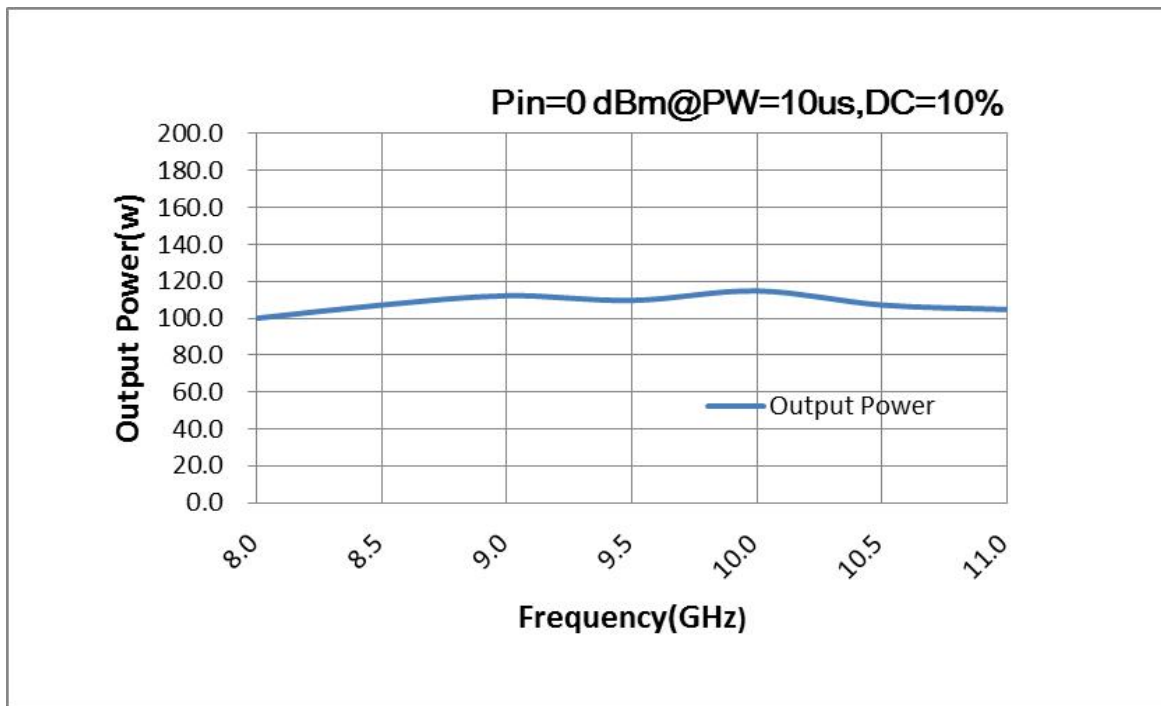
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OUTLINE DRAWING (All dimensions in mm [inch])



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 question.

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