

## 8000-12000MHz/40Watt/Module

*Model Number: KB80120M46A*

The model KB80120M46A is a multi-octave high power amplifier based on GaN technology and operating between 8000 MHz and 12000 MHz and offering a wide dynamic range with 40 watts typical saturated power. The employment of advanced high power devices in manufacturing ensures this module exceptional power performance, long term reliability and high efficiency. It is ideal for broadband high power X Band linear applications.

**FEATURES:**

- Broadband & High power
- High Efficiency
- Class AB
- Small Size & Light Weight
- Low Distortion

**ELECTRICAL SPECIFICATIONS @ +28.0VDC, 25°C, 50Ω**

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	8000		12000	MHz
RF Output Power	P <sub>out</sub>		40		Watt
Power Gain	G <sub>p</sub>		46		dB
Power Gain Flatness	Δ G <sub>p</sub>		±2		dB
Input Return Loss	S <sub>11</sub>			-10	dB
Harmonics @25W	H		-25		dBc
Spurious Signals @30W	Spur		-60		dBc
Switch On/Off@10-90% Time @Pin=0dBm	TON/OFF		2	5	μS
In/Output Impedance	Impedance		50		Ω
Operating Voltage	VDC	26	28	30	Volt
Power add efficiency	Eff		15		%
DC Current @35W	IDD		9		Amp

**MECHANICAL SPECIFICATIONS**

Parameter	Value	Units	Notes
Dimensions	160x120x22 [6.3x4.7x0.86]	mm [inch]	Maximum
Weight	2 [4.4]	kg [lbs]	Maximum
RF Connectors Input	SMA, Female		
RF Connectors Output	SMA, Female		
DC Interface Connector	Hybrid,D-Sub 7-Pin,Male		
Cooling	External Heatsink Required (Not Supplied)		

**ENVIRONMENTAL CHARACTERISTICS (Design to Meet)**

Parameter	Minimum	Typical	Maximum	Units	Notes
Operating Temperature	-20		60	°C	
Non-operating Temperature	-25		65	°C	Storage
Relative Humidity (non-condensing)			95	%	

**ABSOLUTE MAXIMUM RATING**

Input RF drive level without damage	+10 dBm (Max)
Load VSWR @ POUT =30W	∞ @ all load phase & amplitude for duration of 1 minutes; 3:1 @ all load phase & amplitude continuous
Over Temperature	85°C @ heat sink [restored @ 60°C]

*Focus on Your Application*

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*Specifications subject to change without notice*

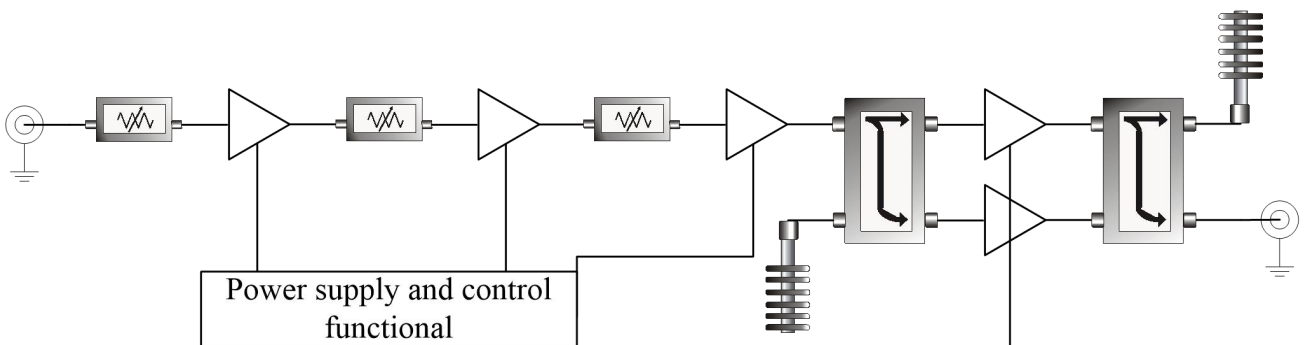
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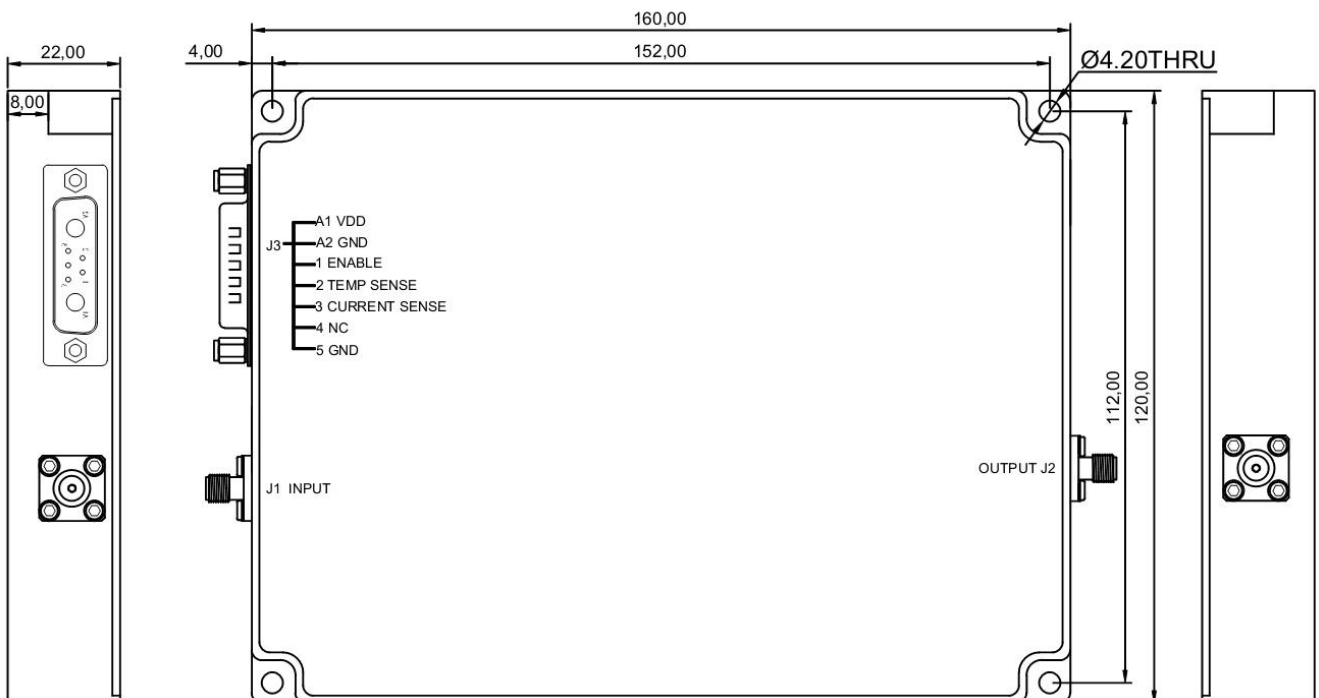
DC INTERFACE CONNECTOR

Pin #	Description	Specifications
A1	VDD	28V <sub>dc</sub>
A2	GND	Ground
1	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
2	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
3	CURRENT SENSE	Analog voltage relative to I <sub>DD</sub> @ 100mV per Ampere
4	NC	No electrical connection
5	GND	Ground

Functional Diagram



OUTLINE DRAWING (All dimensions in mm [inch])



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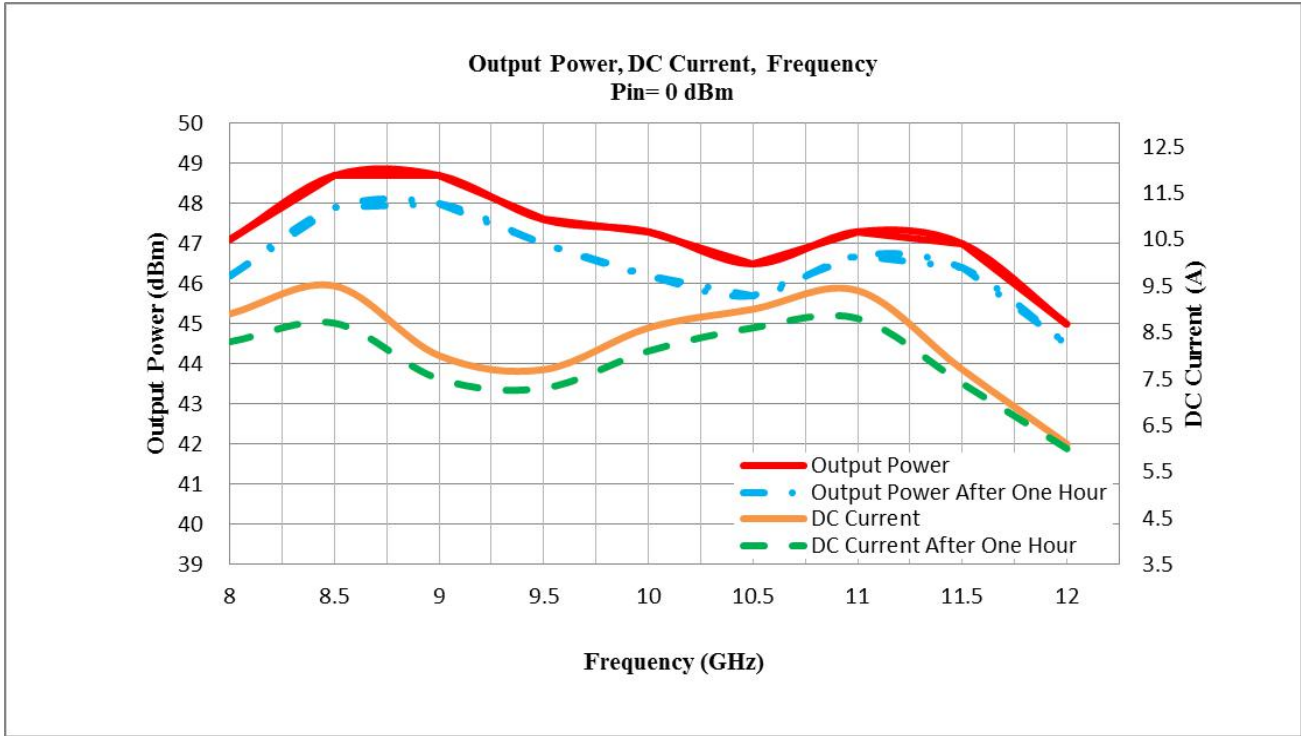
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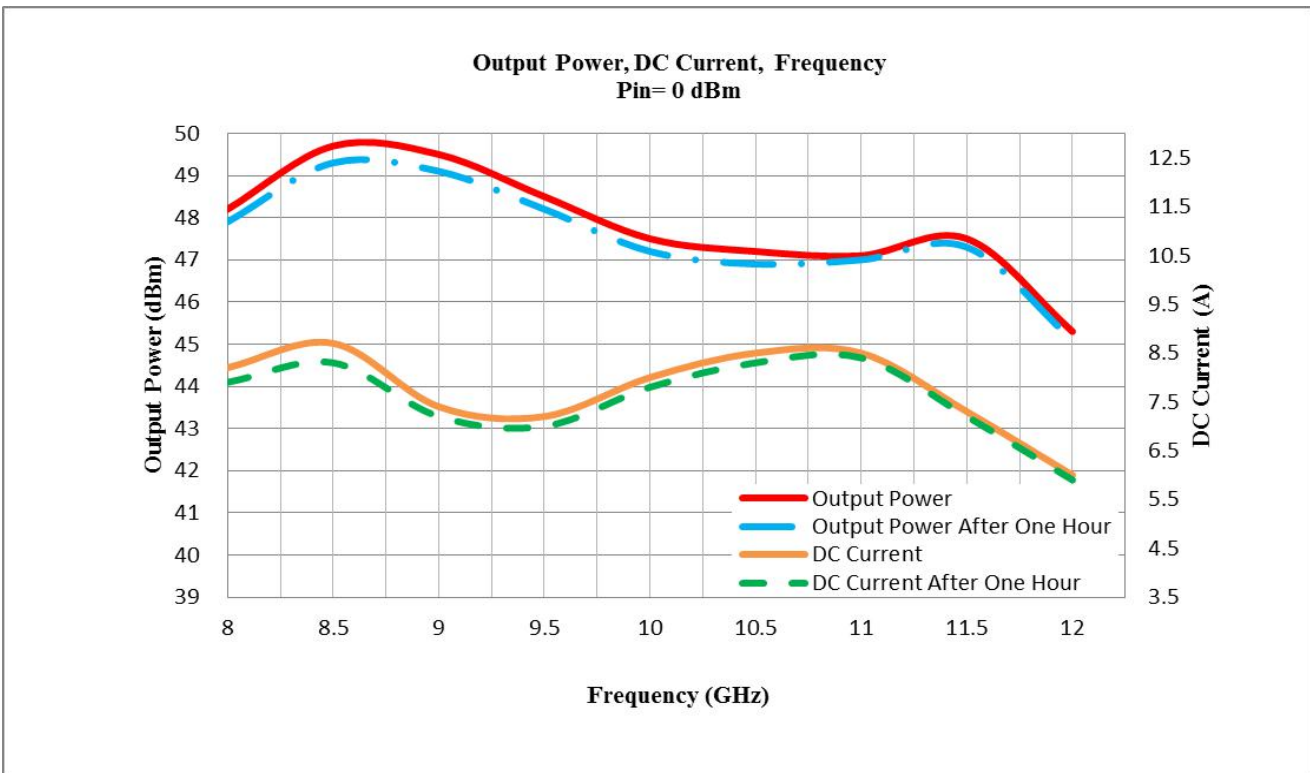
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TYPICAL PERFORMANCE PLOTS

Graph1: Output Power(Low temp.-20±3°C)



Graph2: Output Power(High temp.+60±3°C)



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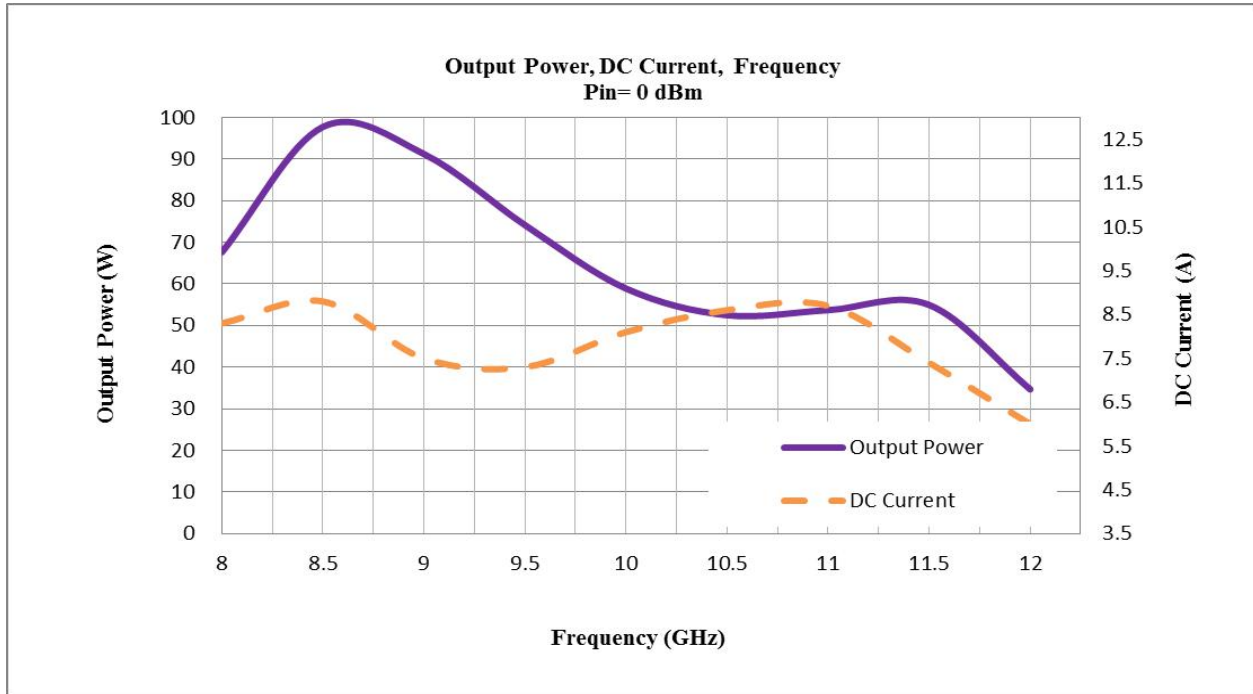
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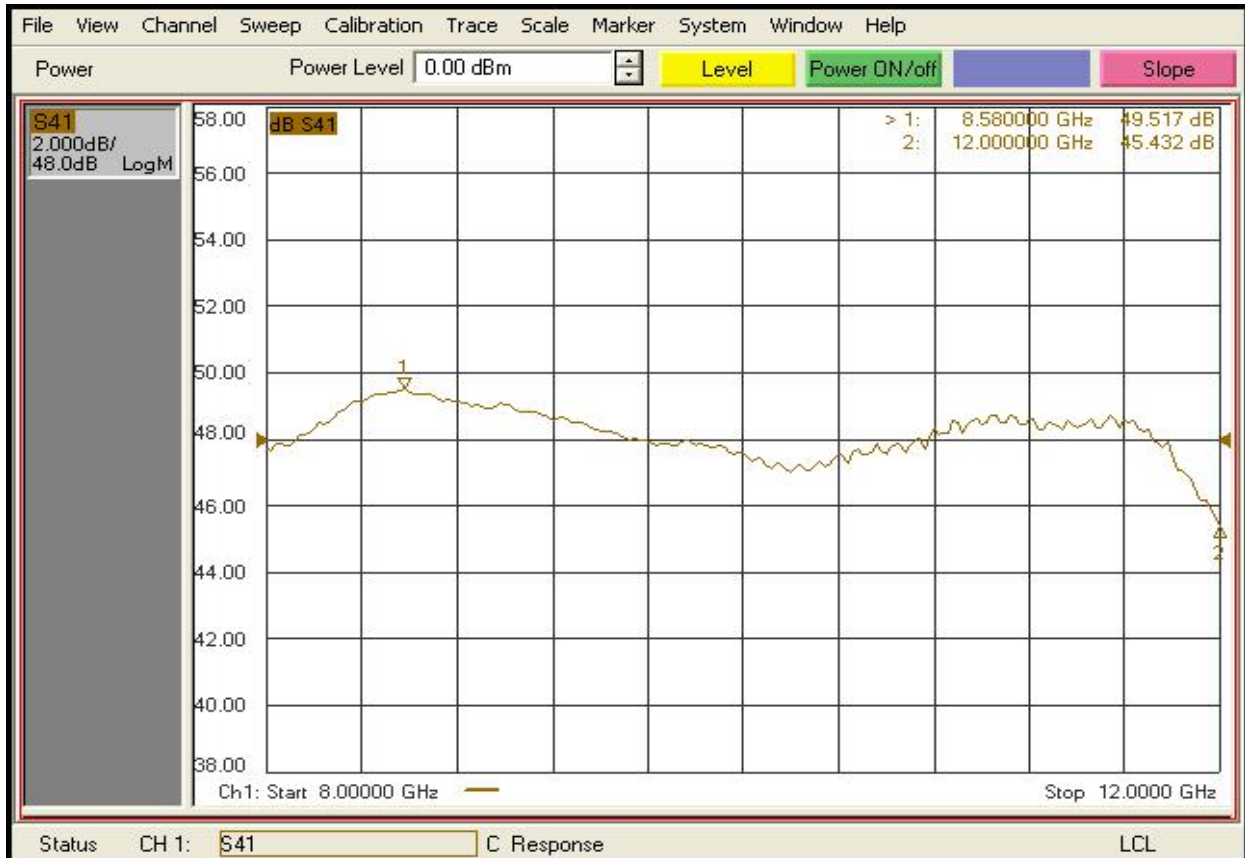
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Graph3: Output Power(Normal temp.+25±3°C)



Power Gain:



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Input Return Loss:



Note: Adequate heatsink required.

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