

## 6-18GHz/10Watt/Module

Model Number: KB60180M40A

The model KB60180M40A is a multi-octave high power amplifier operating between 6 GHz and 18 GHz and offering a wide dynamic Range with 10 Watts typical saturated power. 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 jamming, EMC, test and measurement applications.

**FEATURES:**

- Small Size and light weight
- Instantaneous ultra-broadband
- 50 Ohms input and Output matched
- Built-in control and protection circuits
- Class AB

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

Parameter	Symbol	Minimum	Typical	Maximum	Units
Operating Frequency	BW	6000		18000	MHz
RF Output Power @PSAT	PSAT		10		Watt
Power Gain @PSAT	Gp		40		dB
Power Gain Flatness	$\Delta$ Gp		$\pm 3$		dB
Input Return Loss	S <sub>11</sub>			-10	dB
Harmonics @5W	H		-10		dBc
Spurious Signals	Spur		-60	-55	dBc
In/Output Impedance			50		Ω
Operating Voltage	V <sub>DC</sub>	26	28	30	Volt
Power add efficiency	Eff		10		%
DC Current @10W	I <sub>DD</sub>		3		Amp
Switching Time @1kHz TTL	T <sub>on/off</sub>		5	8	uSec

**MECHANICAL SPECIFICATIONS**

Parameter	Value	Units	Limits
Dimensions	150x90x25 [5.9x3.54x0.98]	mm [inch]	Maximum
Weight	1.2 [2.6]	kg [lbs]	Maximum
RF Connectors Input	SMA, Female		
RF Connectors Output	SMA, Female		
DC Interface Connector	D-Sub 9-Pin, Male		
Cooling	External Heatsink (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	Maximum
Load VSWR @ P <sub>OUT</sub> =5W	∞ @ all load phase & amplitude for duration of 1 minute; 3:1 @ all load phase & amplitude continuous	
Over Temperature	85°C @ heatsink [restored @ 60°C]	

*Focus on Your Application*

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Specifications subject to change without notice

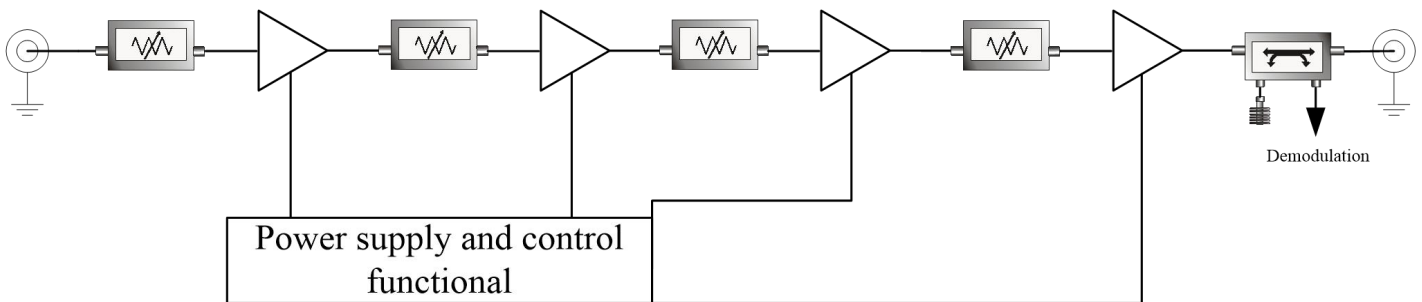
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DC INTERFACE CONNECTOR

Pin #	Description	Specifications
1	VDD	28V <sub>DC</sub>
2	VDD	28V <sub>DC</sub>
3	VDD	28V <sub>DC</sub>
4	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
5	CURRENT SENSE	Analog voltage relative to I <sub>DD</sub> @ 100mV per Ampere
6	GND	Ground
7	GND	Ground
8	GND	Ground
9	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C

Functional Diagram



OUTLINE DRAWING [All dimensions in mm (inch)]



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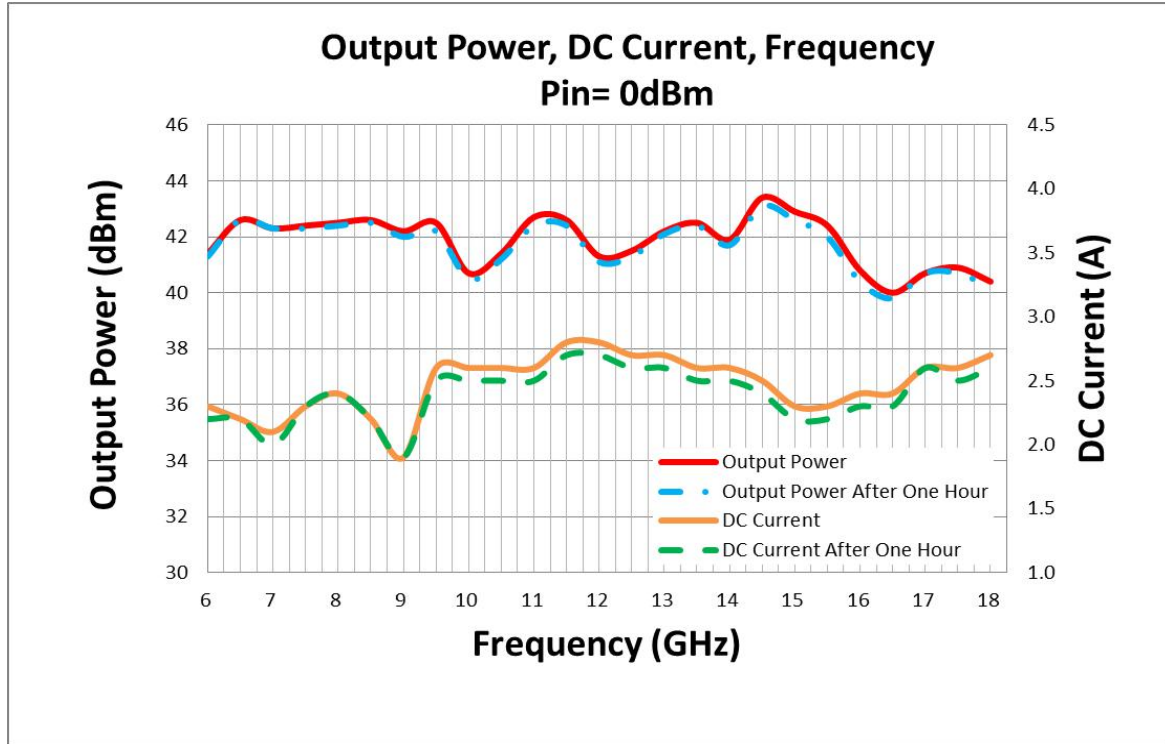
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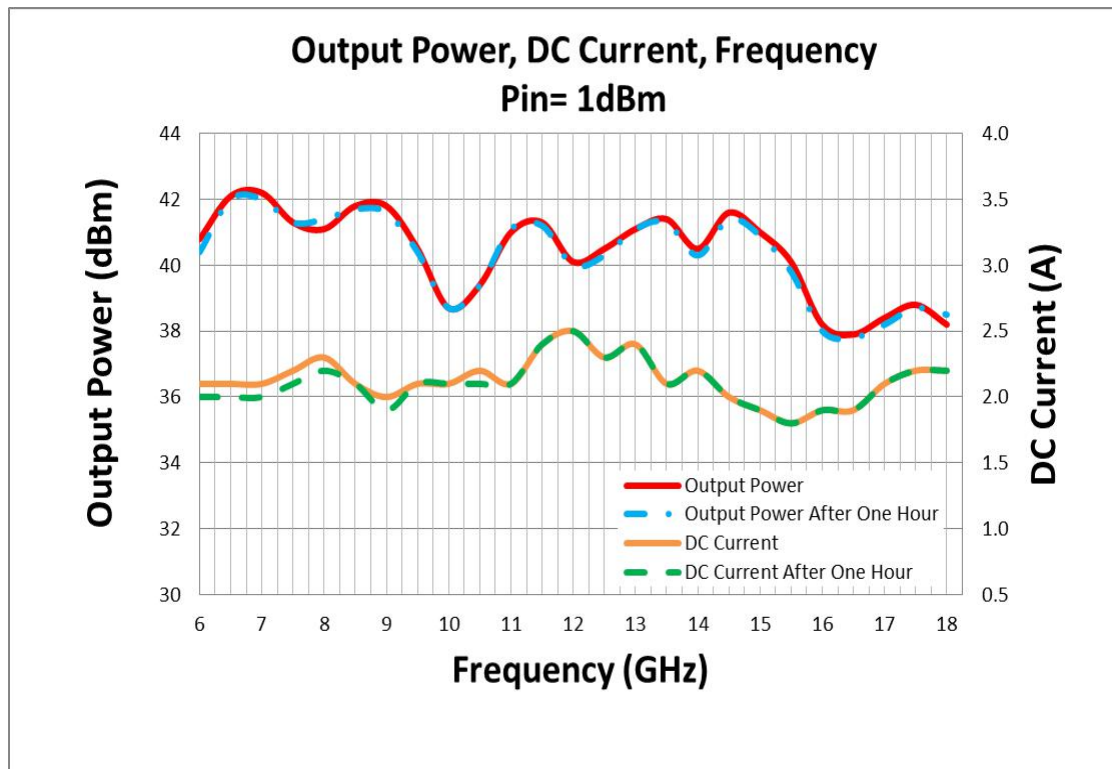
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TYPICAL PERFORMANCE PLOTS (For reference only)

Graph1: Output Power (Low temp.  $-20\pm 3^{\circ}\text{C}$ )



Graph2: Output Power (High temp.  $+60\pm 3^{\circ}\text{C}$ )



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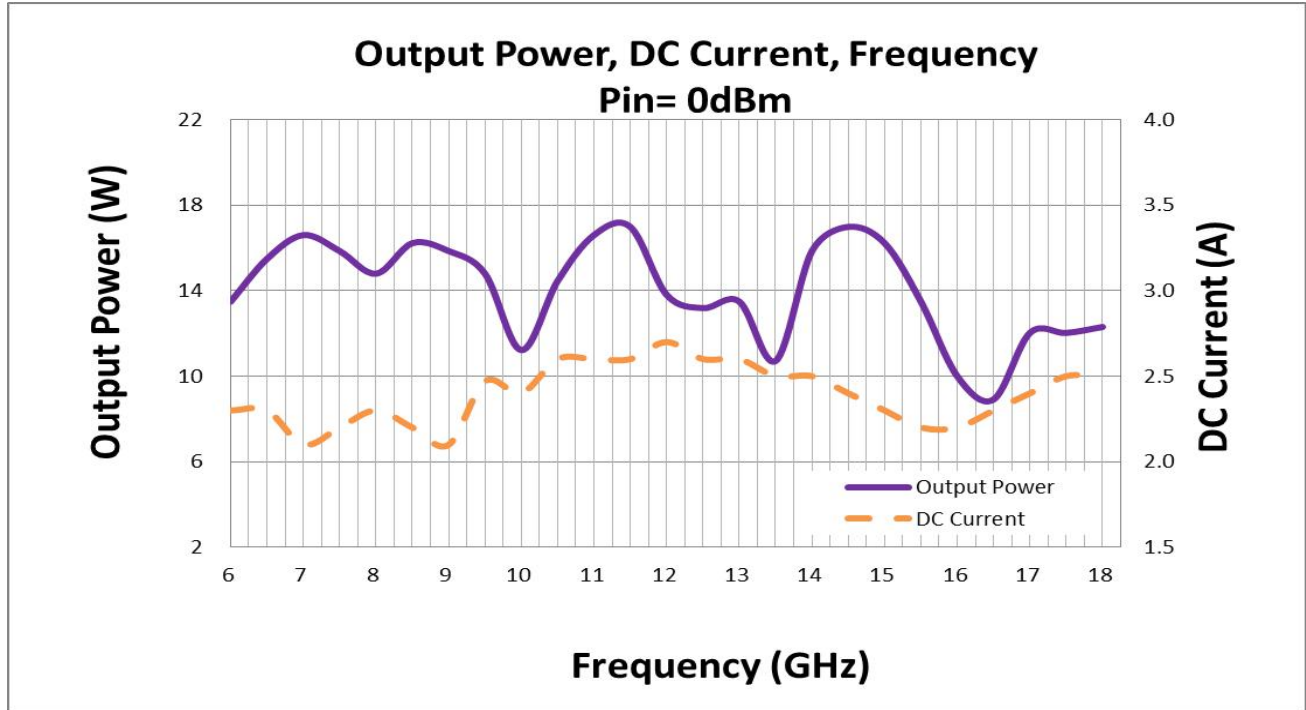
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Graph3: Output Power (Normal temp. +25±3 °C)



Power Gain:



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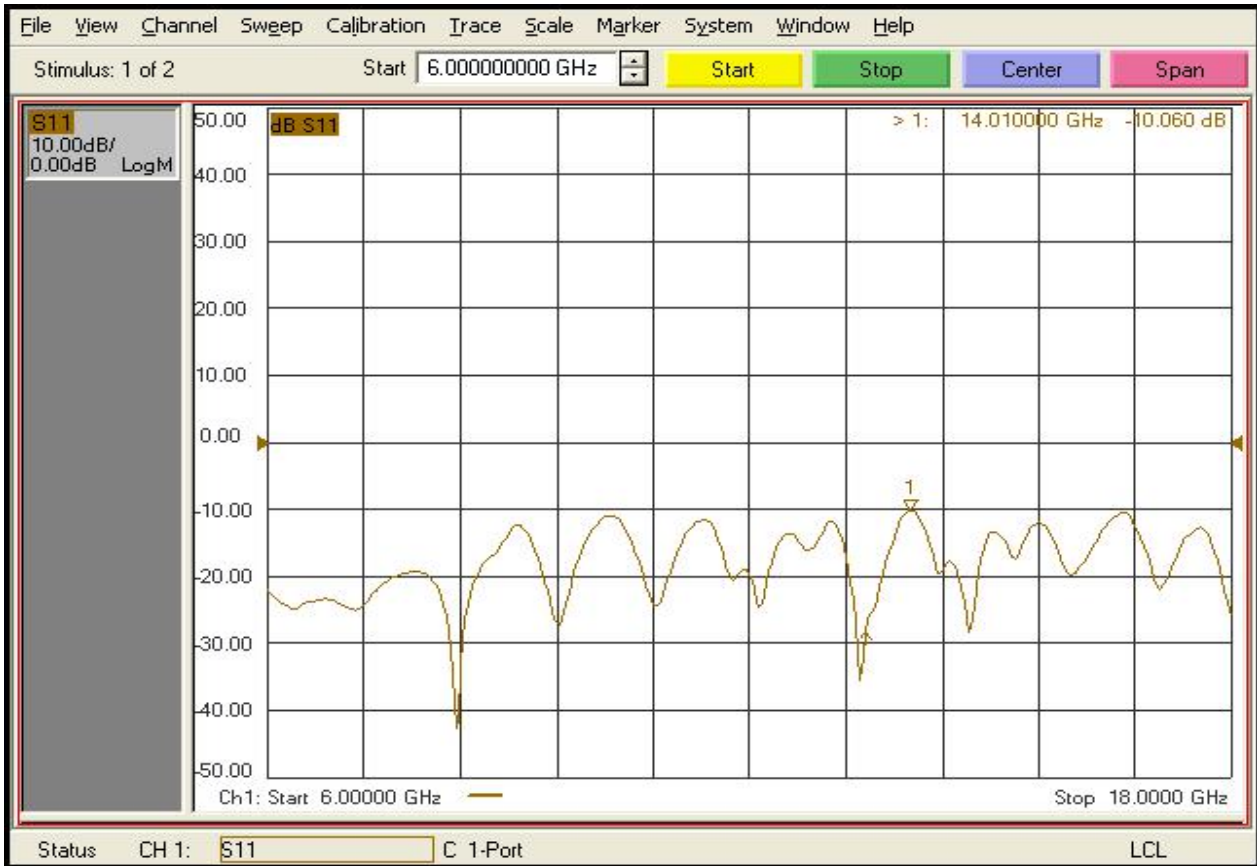
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Input Return Loss:



**Note:**Adequate heatsink required.

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