

## 2000-6000MHz/40Watt/Module

Model Number: OC-PA2-6K40W

The model OC-PA2-6K40W is a multi-octave high power amplifier operating between 2000 MHz and 6000 MHz and offering a wide dynamic Range with 40 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 multi octave broadband high power S/C Band applications.

### FEATURES:

- Broadband , High power
- High Efficiency
- Great Linearity
- Small Size , Light Weight
- Low Distortion
- CLASS AB

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

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	2000		6000	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 @30W	H		-20	-10	dBc
Spurious Signals	Spur		-60		dBc
Switch On/Off@10-90% Time	TON/OFF		2	3	μS
In/Output Impedance	Impedance		50		Ω
Operating Voltage	VDC	26	28	30	Volt
Power add efficiency	Eff		25		%
DC Current @30W	IDD		6		Amp

### MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	160x100x25 [6.2x3.9x0.98]	mm [inch]	Maximum
Weight	1.5 [3.3]	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 @ P <sub>OUT</sub> =30W	∞ @ all load phase & amplitude for duration of 1 minutes; 3:1 @ all load phase & amplitude continuous
Over Temperature	85°C Graceful Degradation

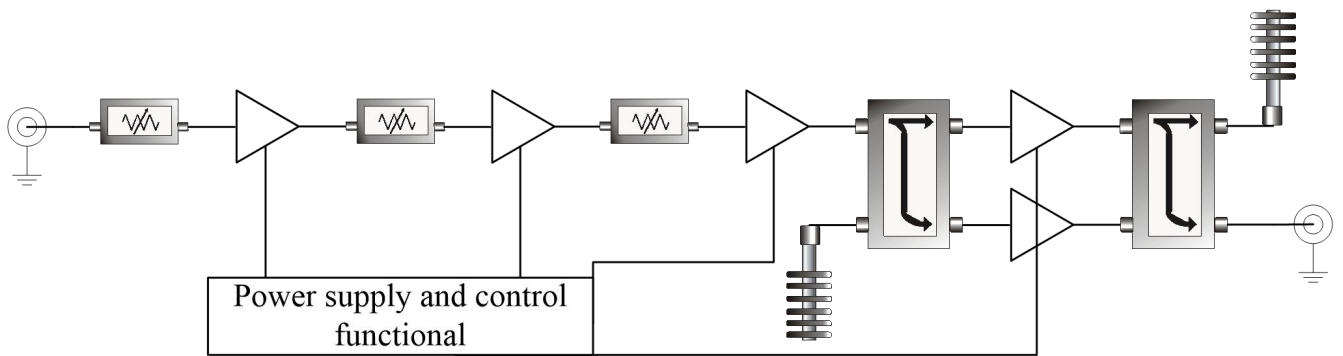
**2000-6000MHz/40Watt/Module**

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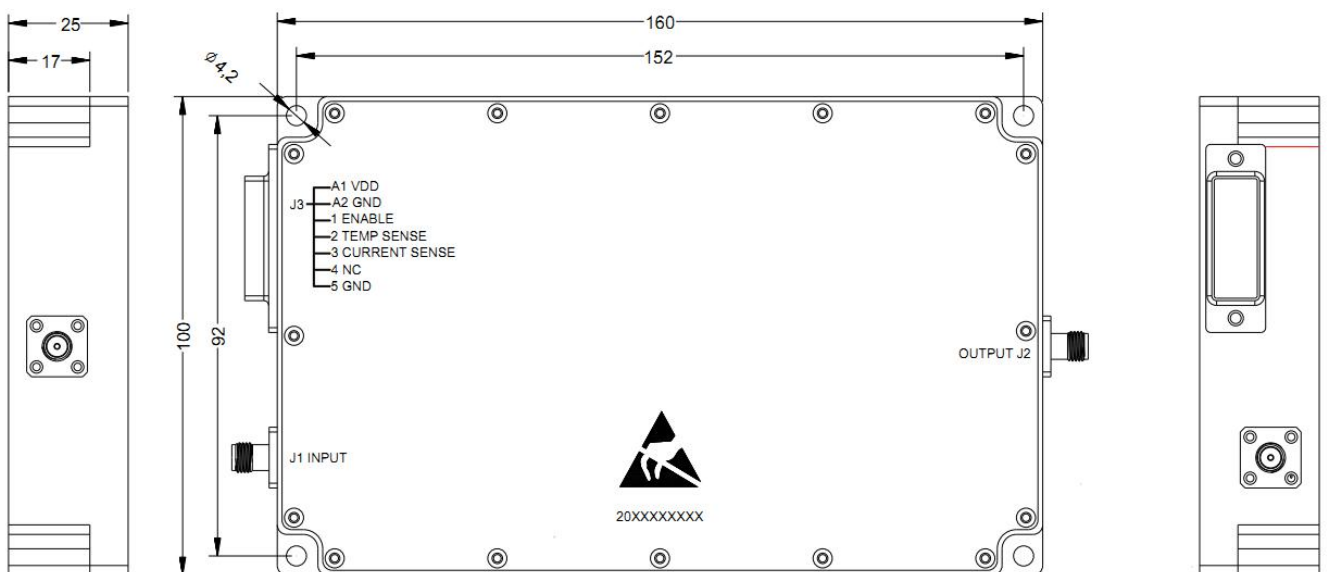
**DC INTERFACE CONNECTOR**

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)**

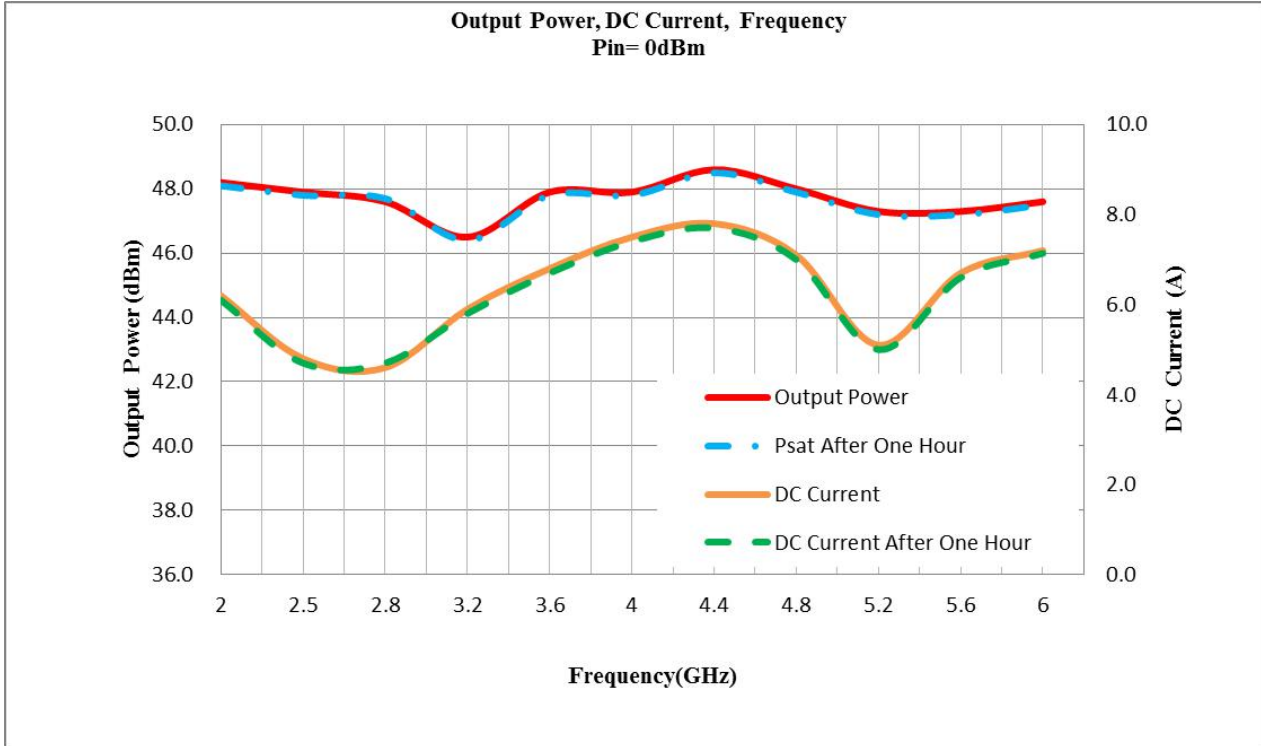


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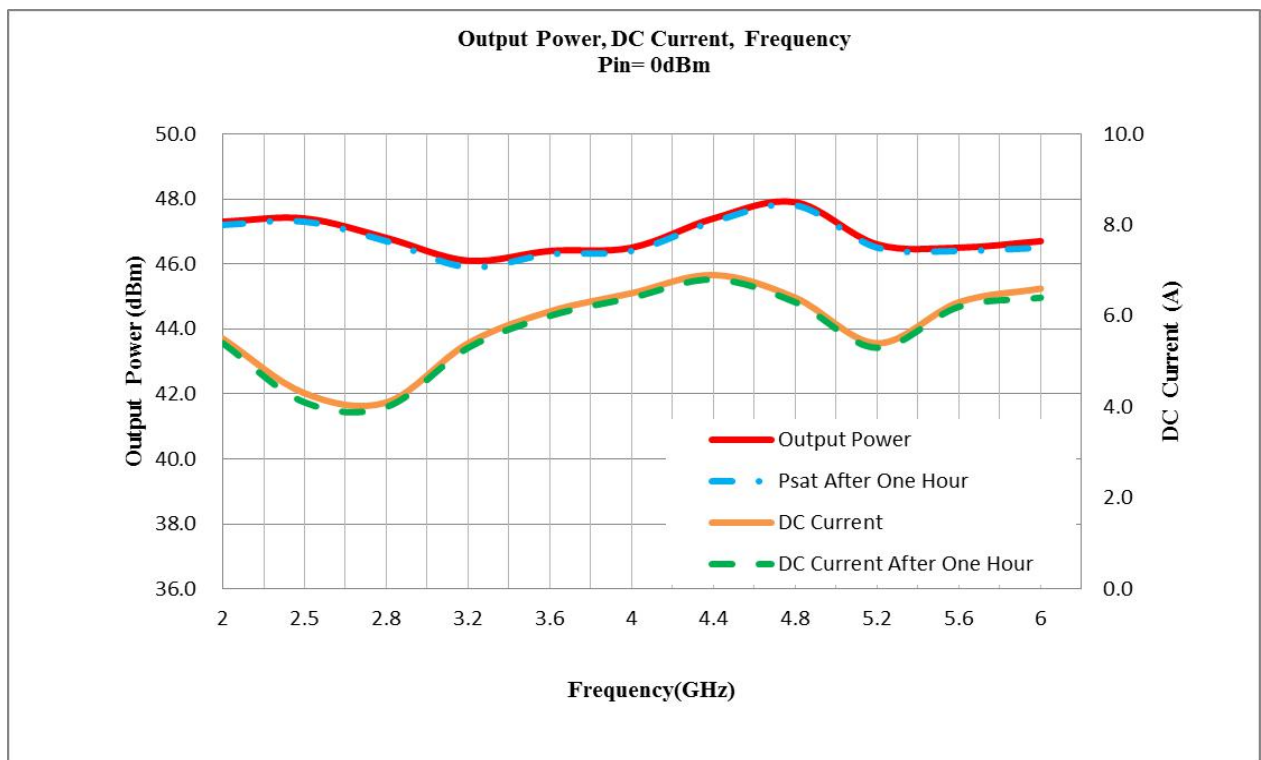
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### TYPICAL PERFORMANCE PLOTS (For reference only)

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



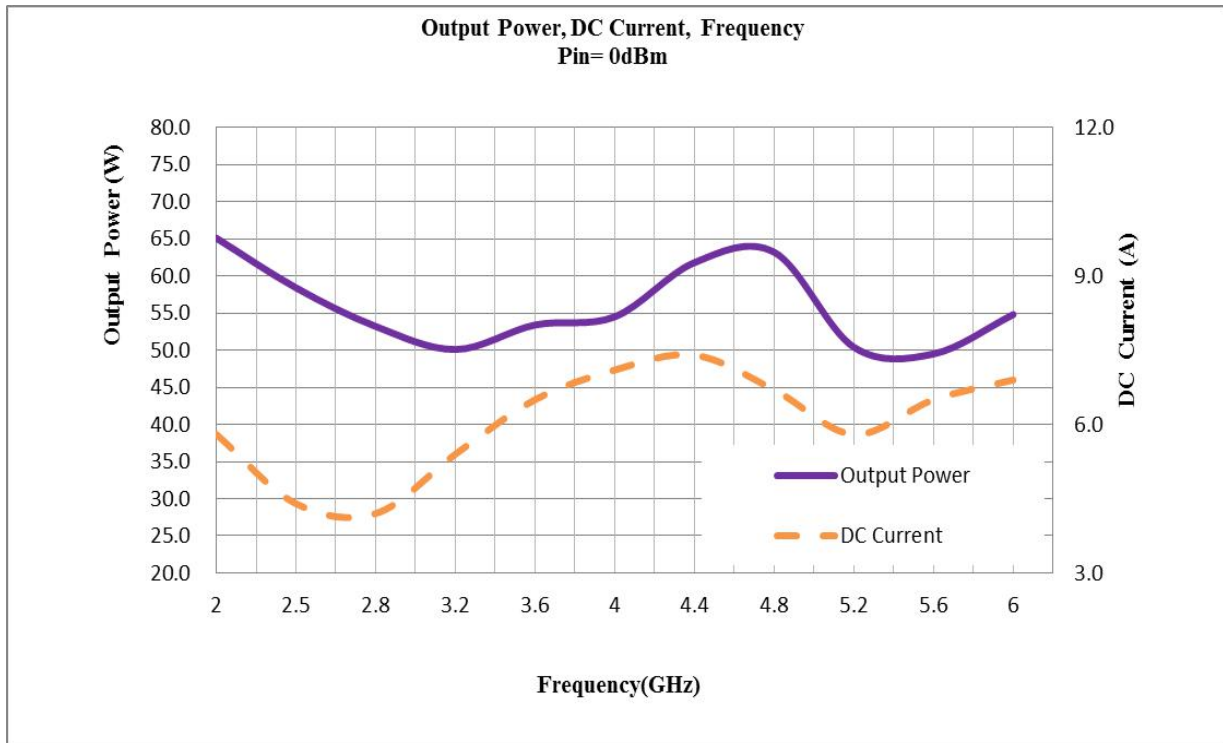
Graph2: Output Power (High temp.  $+60\pm 3^{\circ}\text{C}$ )



## 2000-6000MHz/40Watt/Module

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



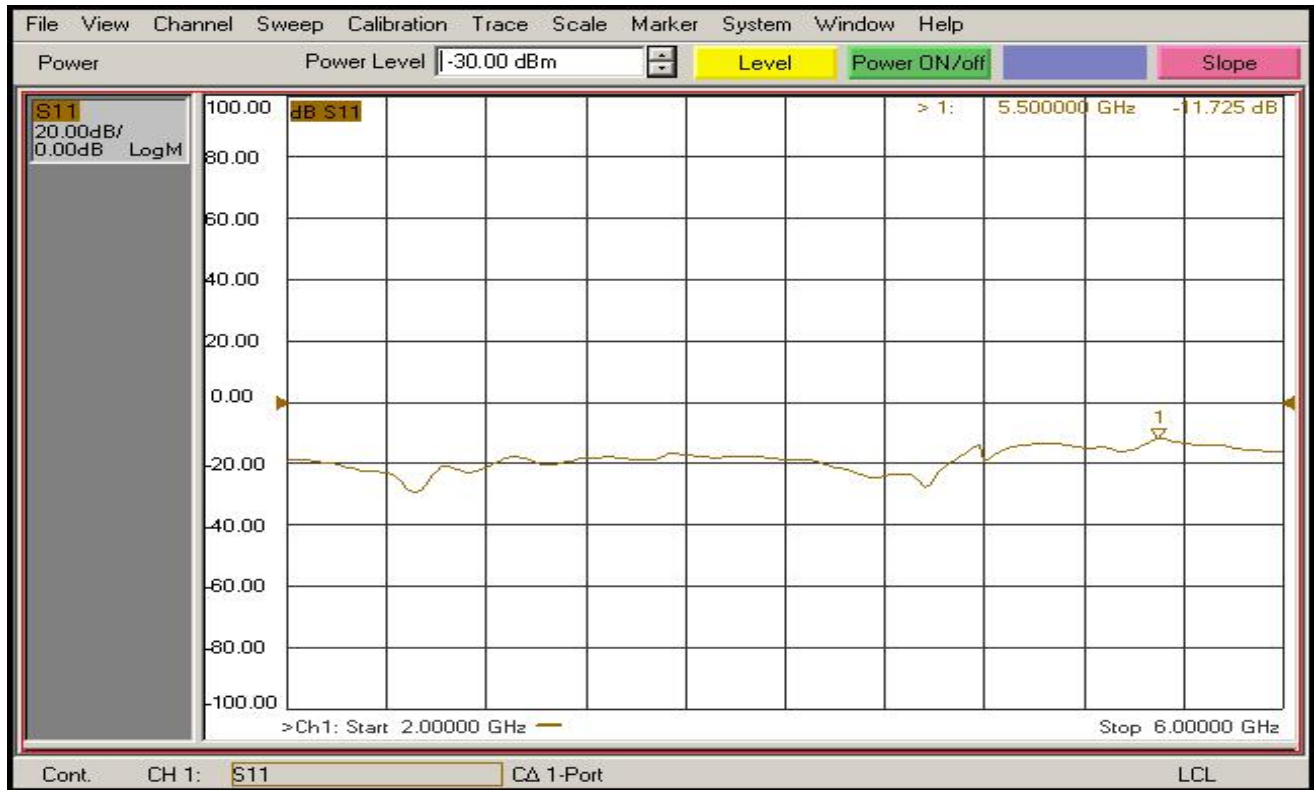
Power Gain:



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Input Return Loss:



Note: Adequate heatsink required.