

1000-2000MHz/50Watt/Module

Model Number: OC-PA1-2K50W

The model OC-PA1-2K50W is a multi-octave high power amplifier operating between 1000MHz and 2000 MHz and offering a wide dynamic Range with 50 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 broadband high power RF linear applications.

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

FEATURES:

- Suitable for RF, L&S linear applications
- Small size and light weight
- Unconditional stability and ruggedness
- Built-in control, and protection circuits

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	1000		2000	MHz
RF Output Power	P _{out}	50			Watt
Power Gain	G _p		48		dB
Power Gain Flatness	Δ G _p		±1.5		dB
Input Return Loss	S ₁₁			-10	dB
Harmonics @40W	H		-15		dBc
Spurious Signals	Spur		-60		dBc
Switching Speed	T _{ON/OFF}		2	5	μS
In/Output Impedance	Impedance		50		Ω
Operating Voltage	V _{DC}	24	28	32	Volt
Current Consumption @ P _{OUT} = 50W	I _{DD}			7	Amp
Current Consumption @ Shutdown	I _{SD}		0.2		Amp
RF Input to Output Isolation(During OFF State)	Isolation		85		dBc

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	140x85x20.5 [5.5x3.3x0.8]	mm [inch]	Maximum
Weight	0.65 [1.43]	kg [lbs]	Maximum
RF Connectors Input	SMA, Female		
RF Connectors Output	SMA, Female		
DC Interface Connector	D-Sub 9-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 _{OUT} =30W	∞ @ all load phase & amplitude for duration of 1 minutes; 3:1 @ all load phase & amplitude continuous

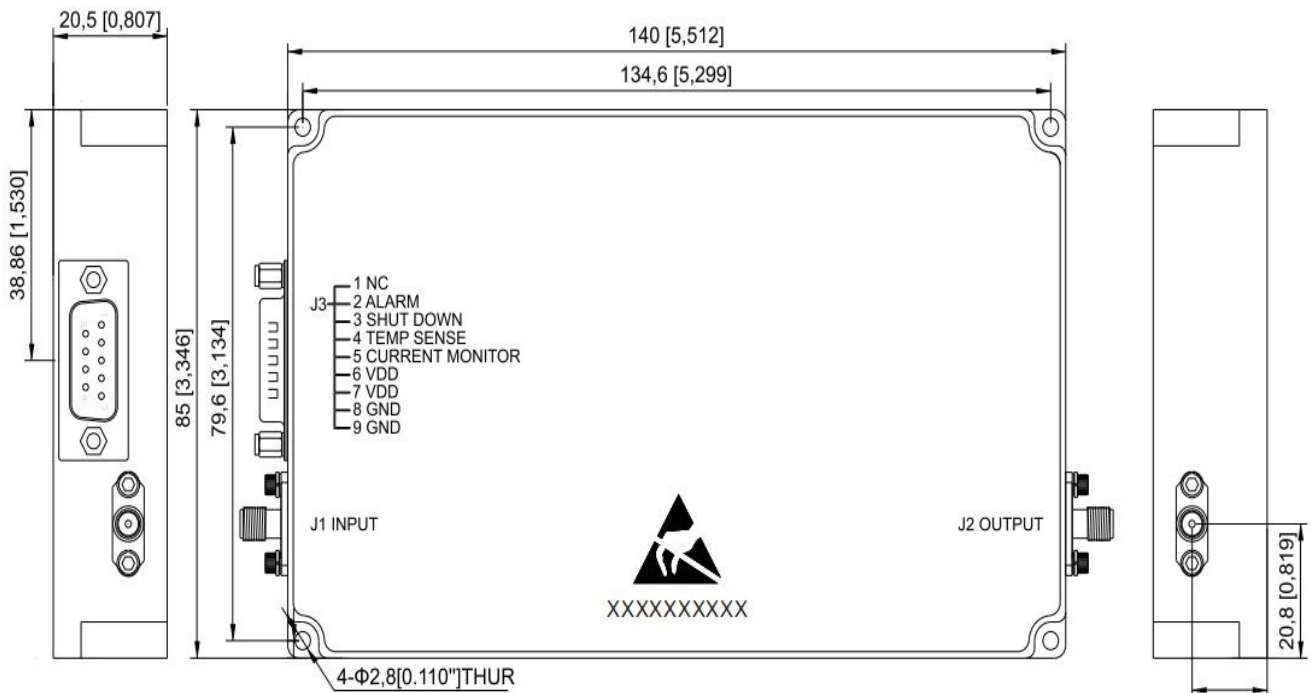
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DC INTERFACE CONNECTOR

Pin #	Description	Specifications
1	N/C	No electrical connection
2	Alarm	Amplifier Alarm indicator: Normally TTL Low
3	Shutdown	Amplifier Disable: TTL Logic High (3.3V) (Internally Pulled-Low)
4	Temperature Sense	Analog voltage relative to Module's Temperature @ 10 mV/°C
5	Current Monitor	Analog voltage relative to IDD @ 100mV per Ampere
6	VDD	28VDC
7	VDD	28VDC
8	GND	Ground
9	GND	Ground

OUTLINE DRAWING (All dimensions in mm [inch])

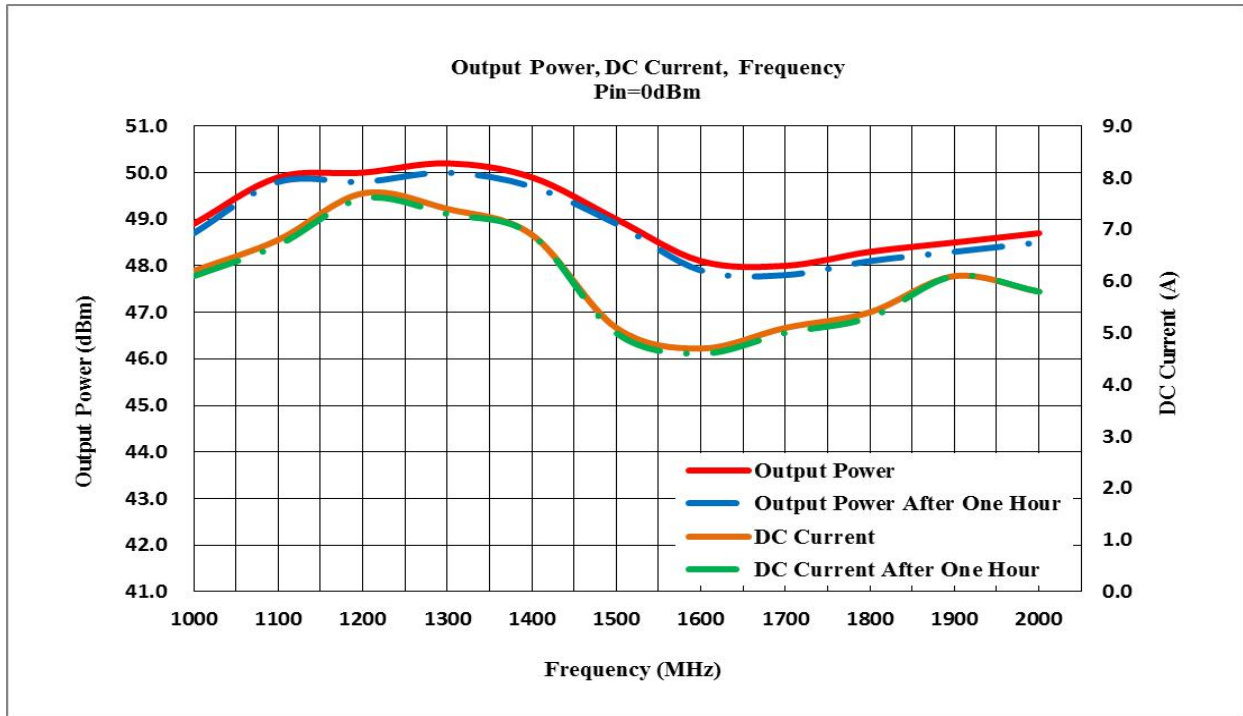


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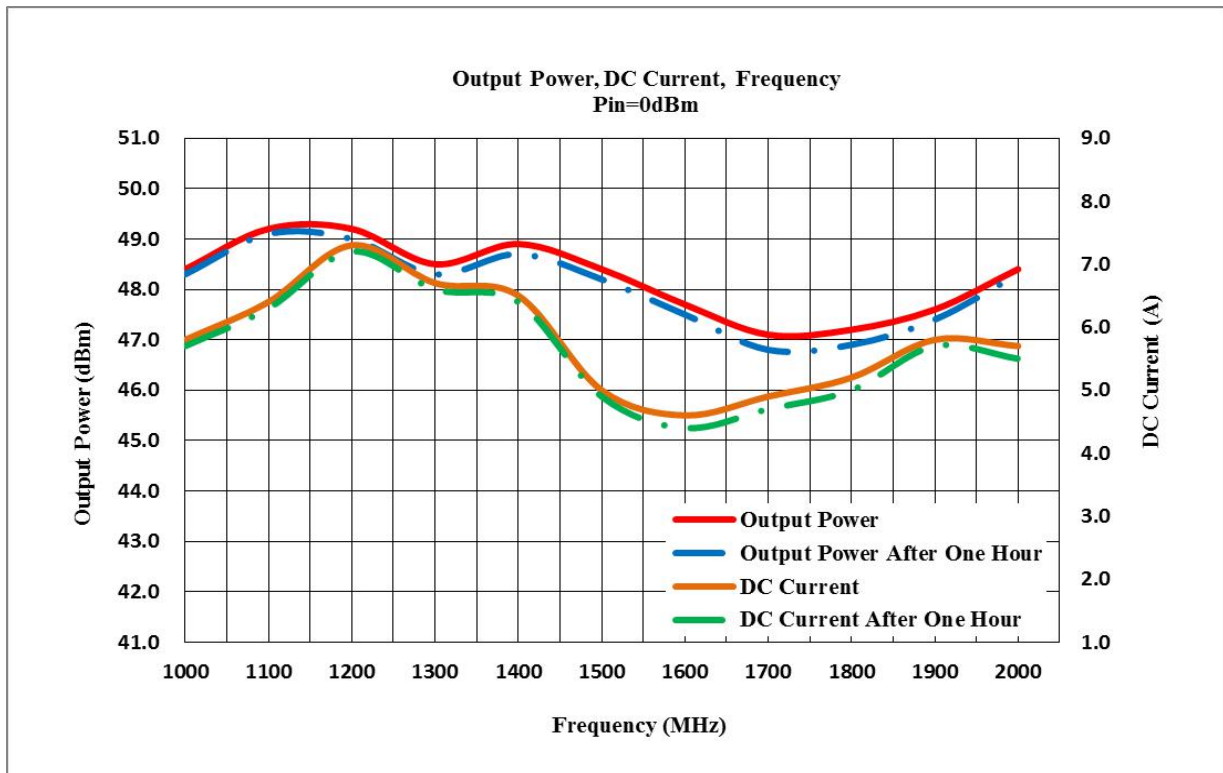
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TYPICAL PERFORMANCE PLOTS (for reference only)

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



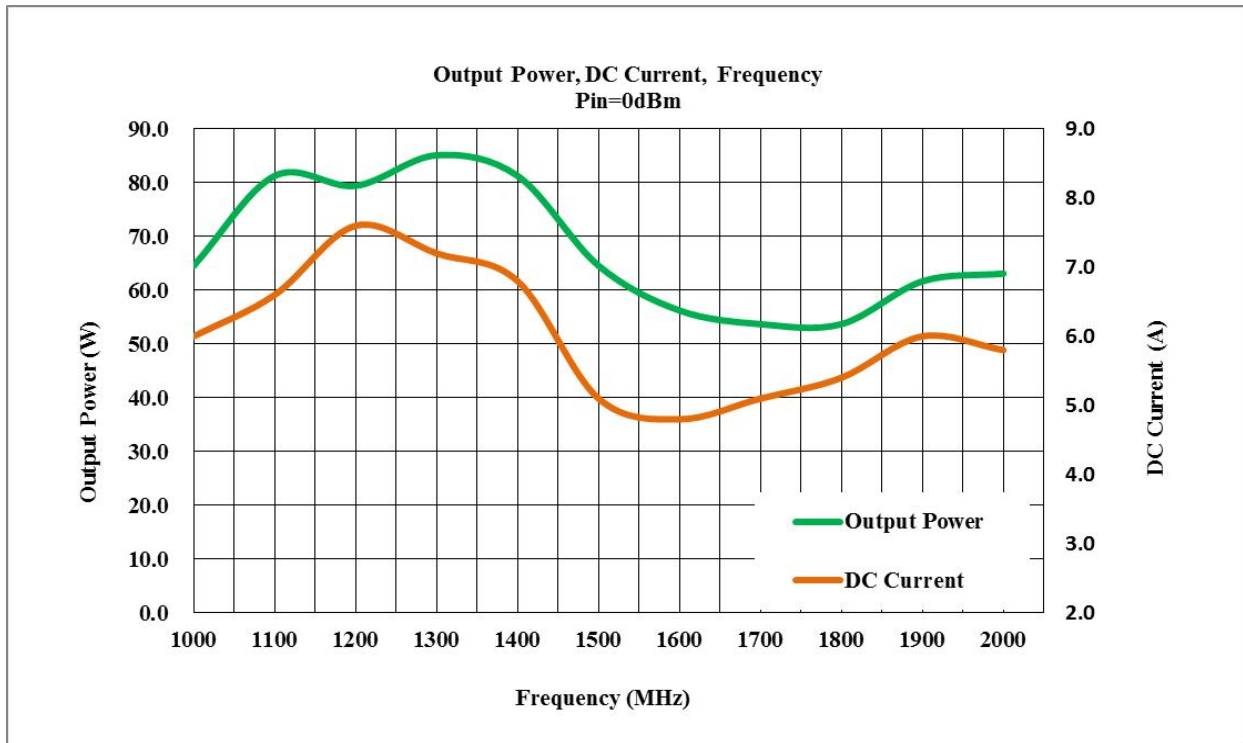
Graph2: Output Power (High temp. $+60 \pm 3^\circ\text{C}$)



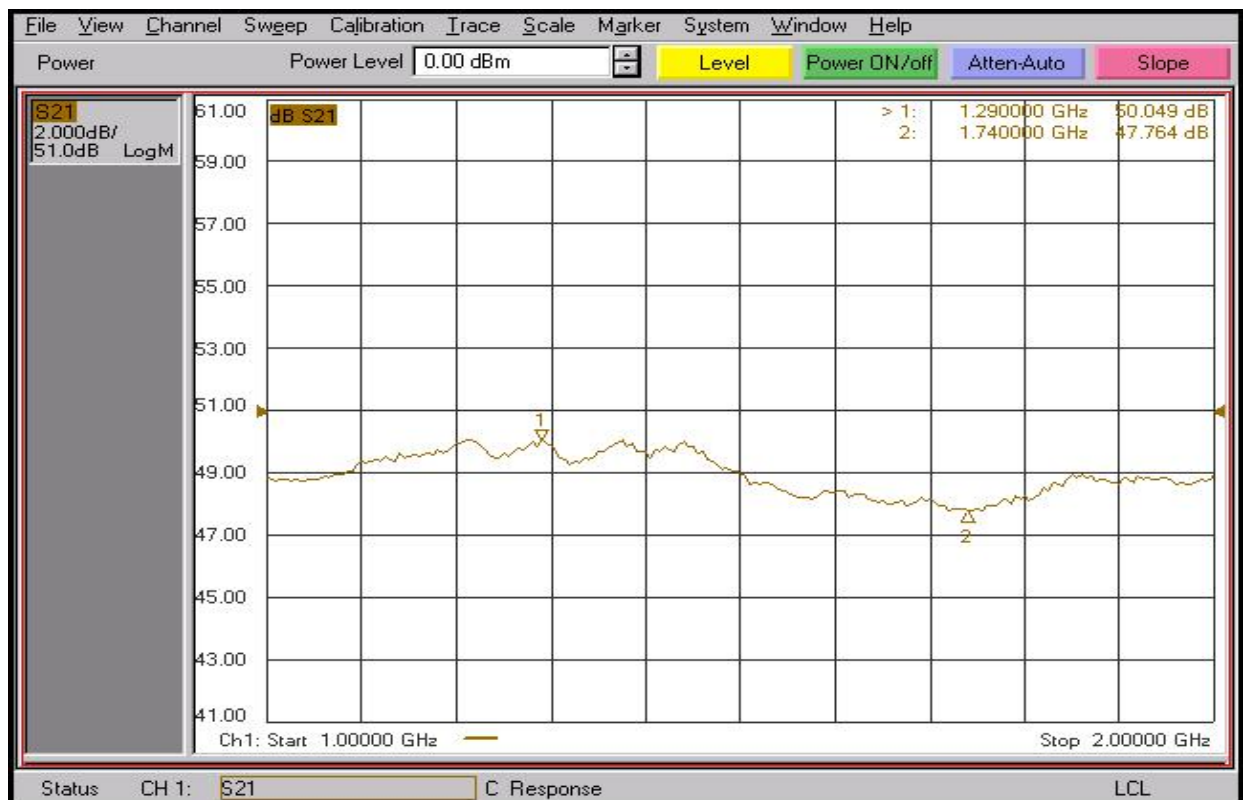
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Graph3: Output Power (Normal temp. +25±3 °C)



Power Gain:



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Input Return Loss:



Note: Adequate heatsink required.