





Broadband High Power Amplifier Module (SSPA)

0.5-2.5GHz/100Watt/Module

Model Number: MCW0525M50A

The model MCW0525M50A is a multioctave high power amplifier operating between 0.5GHz and 2.5GHz and offering a wide dynamic Range with 100Watts 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

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

Parameter	Symbol	Minimum	Typical	Maximum	Units
Operating Frequency	BW	500		2500	MHz
RF Output Power @PSAT	PSAT	60	100		Watt
Power Gain @PSAT	Gp		50		dB
Power Gain Flatness @PSAT	Δ Gp		±2		dB
Input Return Loss	S ₁₁			-10	dB
Harmonics @70W	H		-10	-8	dBc
Spurious Signals @ PSAT	Spur		-60		dBc
In/Output Impedance	Impedance		50		Ω
Operating Voltage	VDC	24	28	32	Volt
Power add efficiency	Eff		27		
DC Current @100W	I _{DD}		13		Amp
Switching Time @1kHz TTL	Ton/off		5		uS

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions	180x82x25 [7.09x3.23x0.98]	mm [inch]	Maximum
Weight	2 [4.4]	kg [lbs]	Maximum
RF Connectors Input	SMA, Female		
RF Connectors Output	SMA, Female		
DC Interface Connector	D-Sub 9-Pin, Male		
Cooling	External Heat sink 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 =50W	∞ @ all load phase & amplitude for duration of 1 minute; 3:1 @ all load phase & amplitude continuous
Over Temperature	85°C Graceful Degradation

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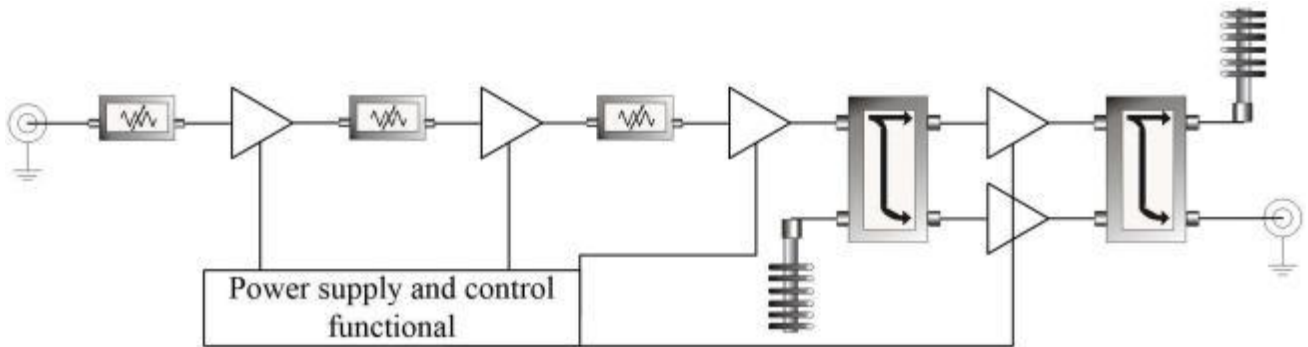
0.5-2.5GHz/100Watt/Module

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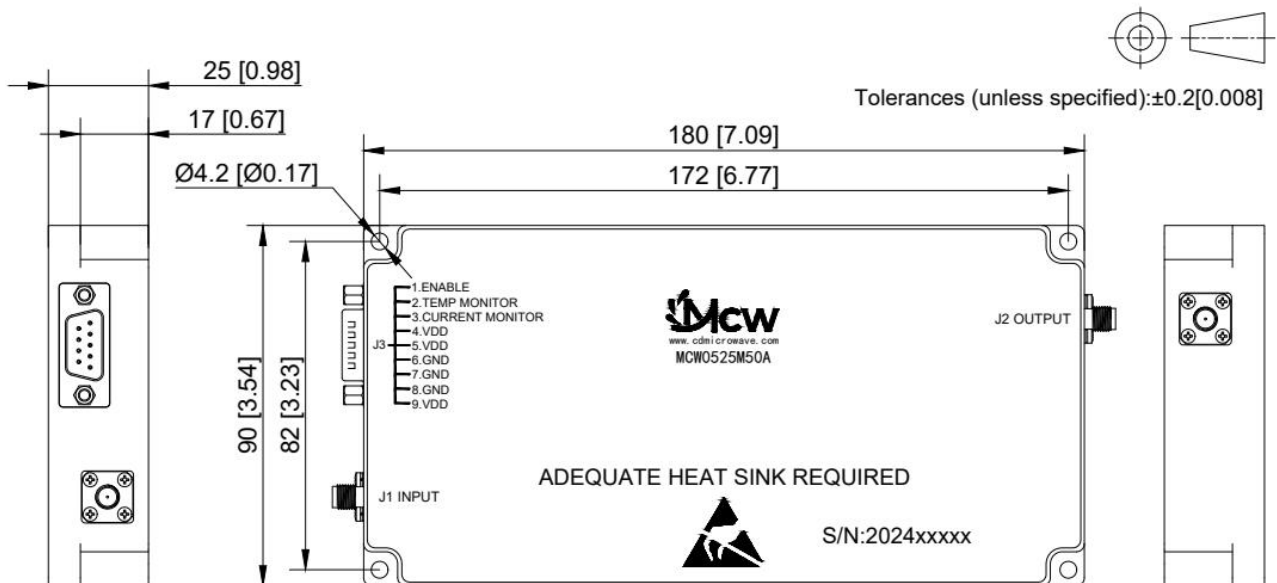
DC INTERFACE CONNECTOR

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

Functional Diagram



OUTLINE DRAWING (All dimensions in mm [inch])



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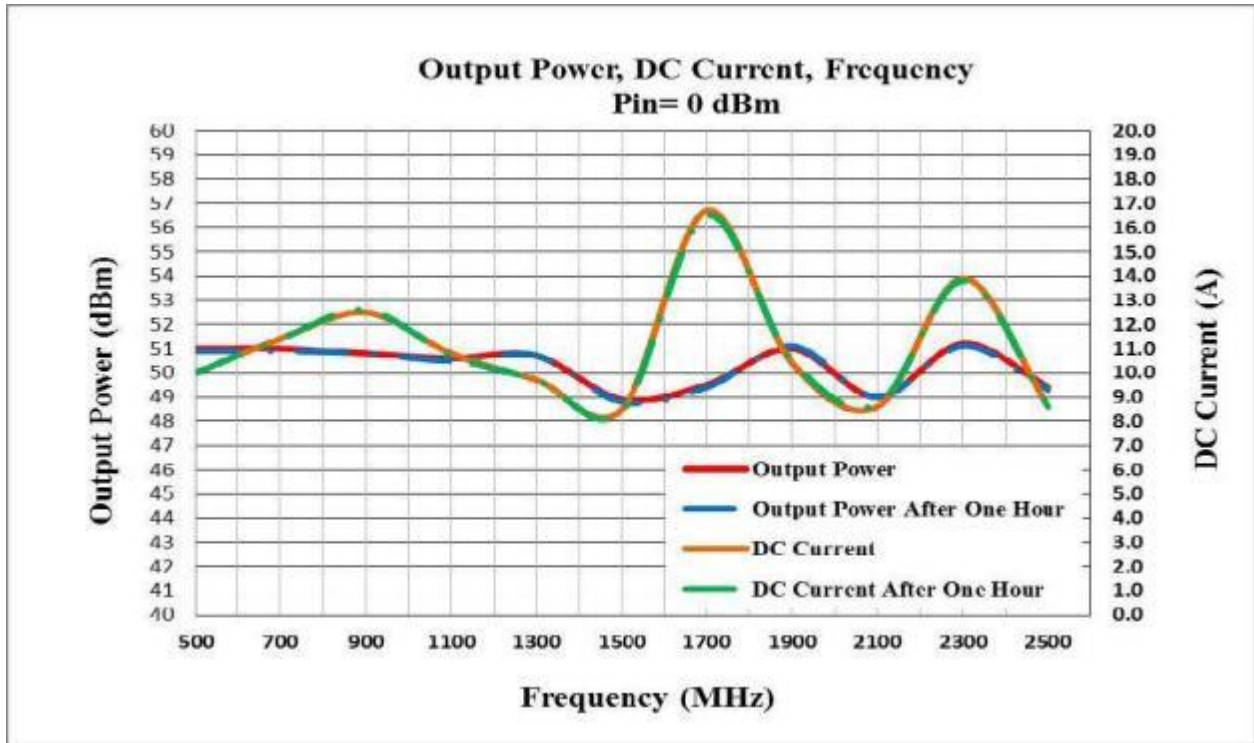
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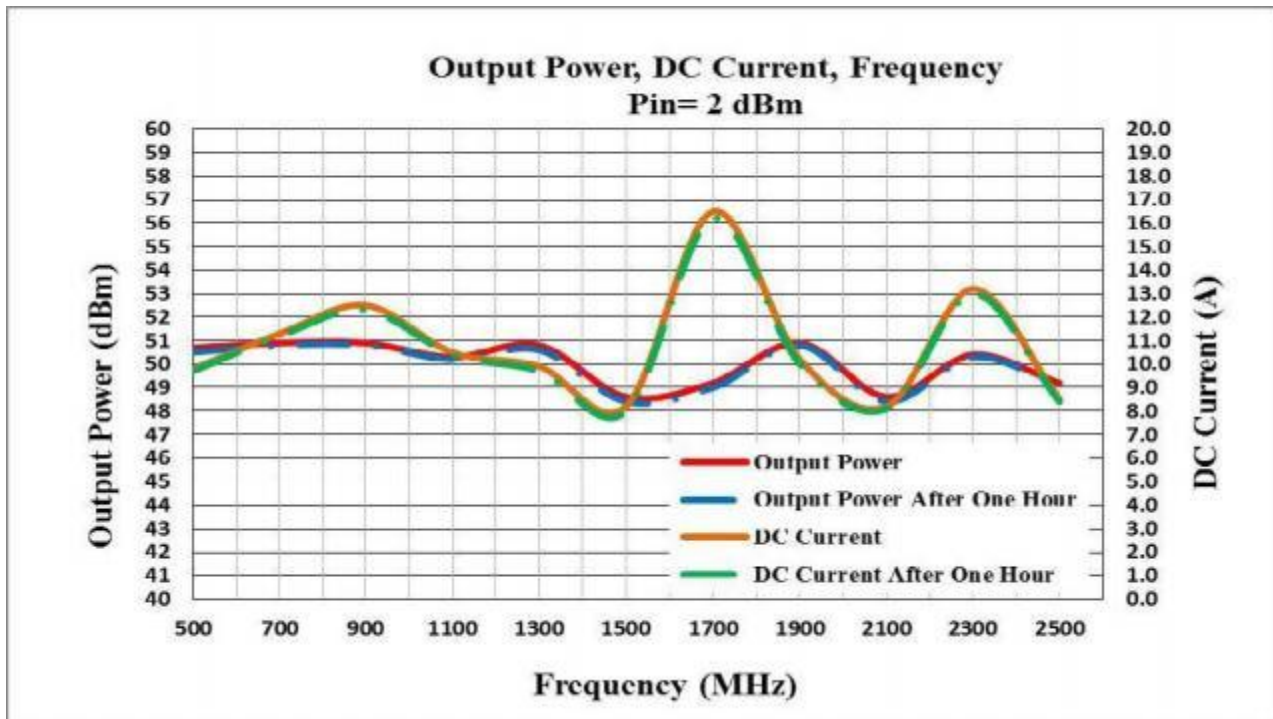
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TYPICAL PERFORMANCE PLOTS(For reference only)

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



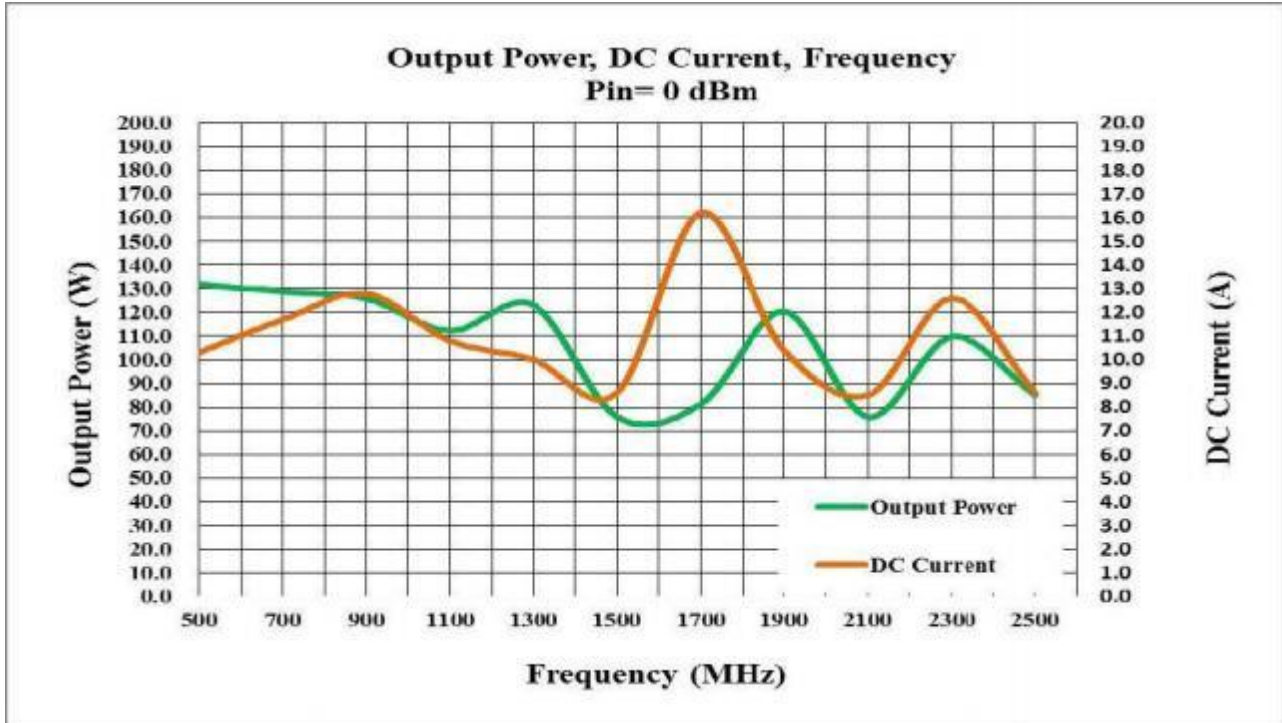
Graph2: Output Power (High temp. $+55\pm 3^{\circ}\text{C}$)



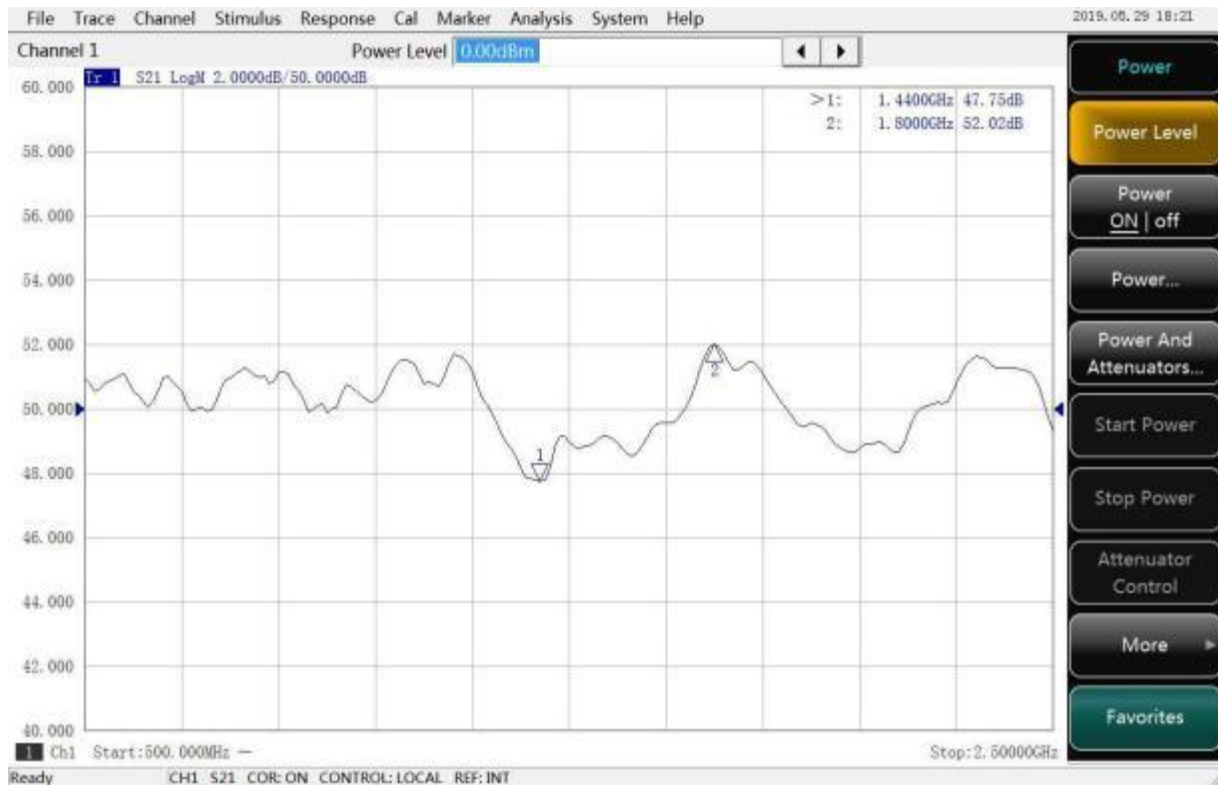
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Graph3: Output Power (Normal temp. +25±3°C)



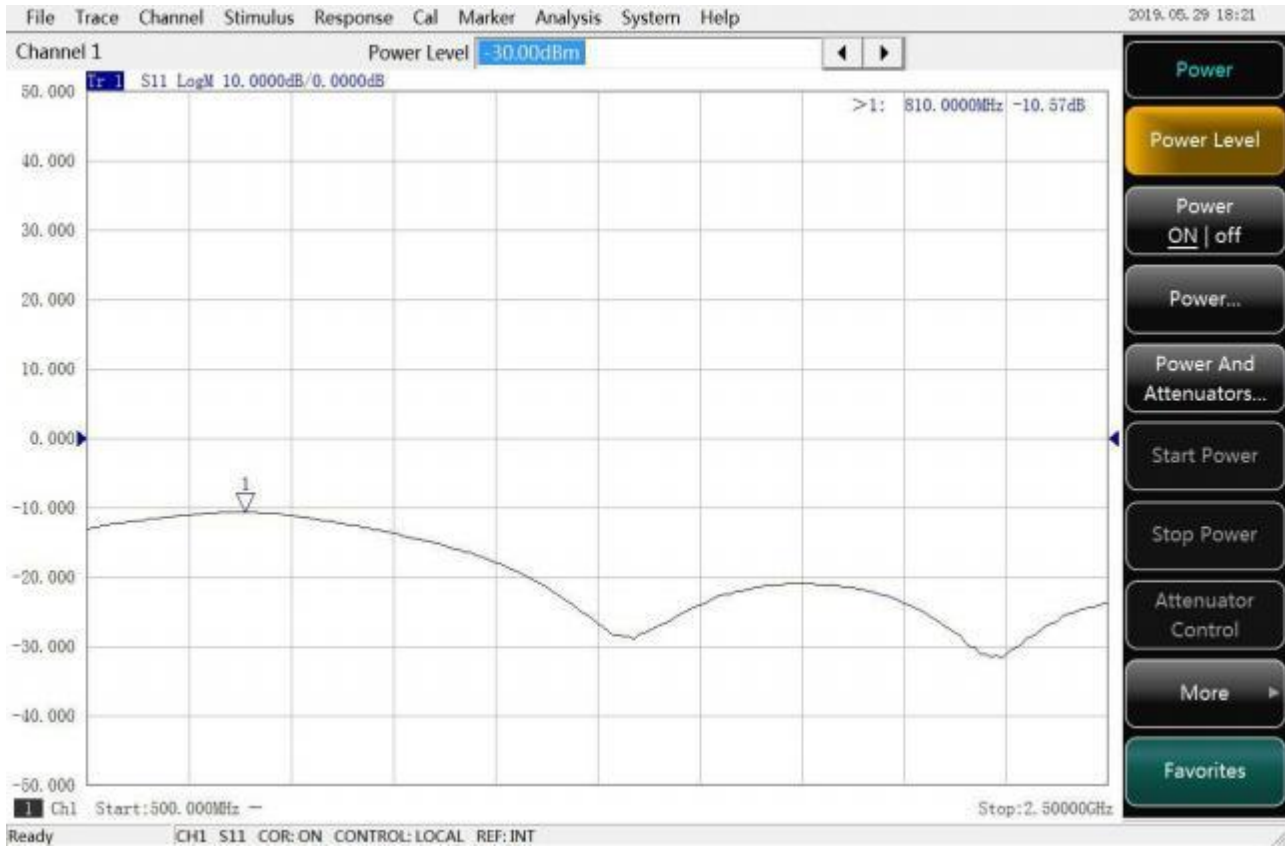
Power Gain:



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Input Return Loss:



Important 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 Chengdu Microwave Technology Co., Ltd sales team or E-mail to info@cdmicrowave.com if you have any more questions.

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