

0.7-2.7GHz/100Watt/Module

Model Number: MCW0727M50A V2.0

The model MCW0727M50A is a multioctave high power amplifier operating between 0.7GHz and 2.7GHz 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
-  Broadband & High power
-  50 Ohms Input and Output Matched
-  Built-In Control and Protection

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

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	700		2700	MHz
RF Output Power @ P _{SAT}	P _{SAT}		100		Watt
Power Gain	G _p		50		dB
Power Gain Flatness	Δ G _p		±2.5		dB
Input Return Loss	S ₁₁			-10	dB
Harmonics @60W	H		-10	-8	dBc
Spurious Signals	Spur		-60		dBc
In/Output Impedance	Impedance		50		Ω
Operating Voltage	V _{DC}	24	28	32	Volt
DC Current @80W	I _{DD}		13		Amp
Switching Time @1kHz TTL	Ton/off		2	5	uS

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	180x80x25 [7.09x3.15x0.98]	mm [inch]	Maximum
Weight	0.95	kg	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	-40		60	°C	
Non-operating Temperature	-45		85	°C	Storage
Relative Humidity (non-condensing)			95	%	

ABSOLUTE MAXIMUM RATING

Input RF drive level without damage	+10 dBm (Max)
Load VSWR @ P _{OUT} =70W	∞ @ all load phase & amplitude for duration of 1 minute; 3:1 @ all load phase & amplitude continuous.
Over Temperature	85°C @ heatsink restored @ 60°C

Chengdu Microwave Technology Co., Ltd

>>1st Floor, Building 3#, Huidu Science Park, No.5 Xixin Avenue, High-tech West District, Chengdu, China 611731

>>Tel: +86(28)87872669*0

>>Fax: +86(28)87882925

>>Mobile/WhatsApp: +86-181 8078 9271

>>Email: info@cdmicrowave.com

>>www.cdmicrowave.com

Broadband High Power Amplifier Module (SSPA)

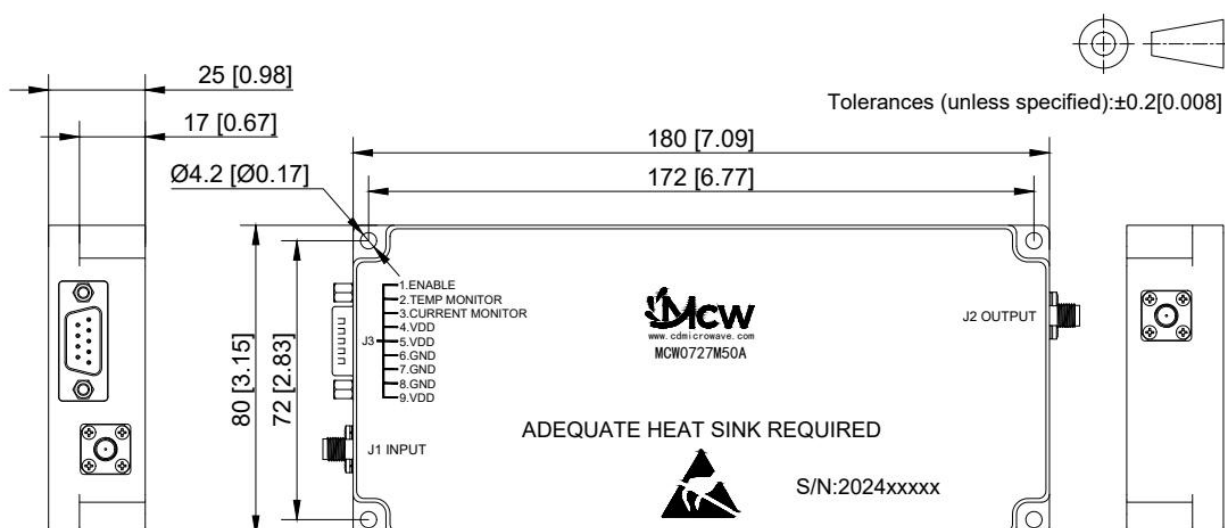
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DC INTERFACE CONNECTOR

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

OUTLINE DRAWING (All dimensions in mm [inch])



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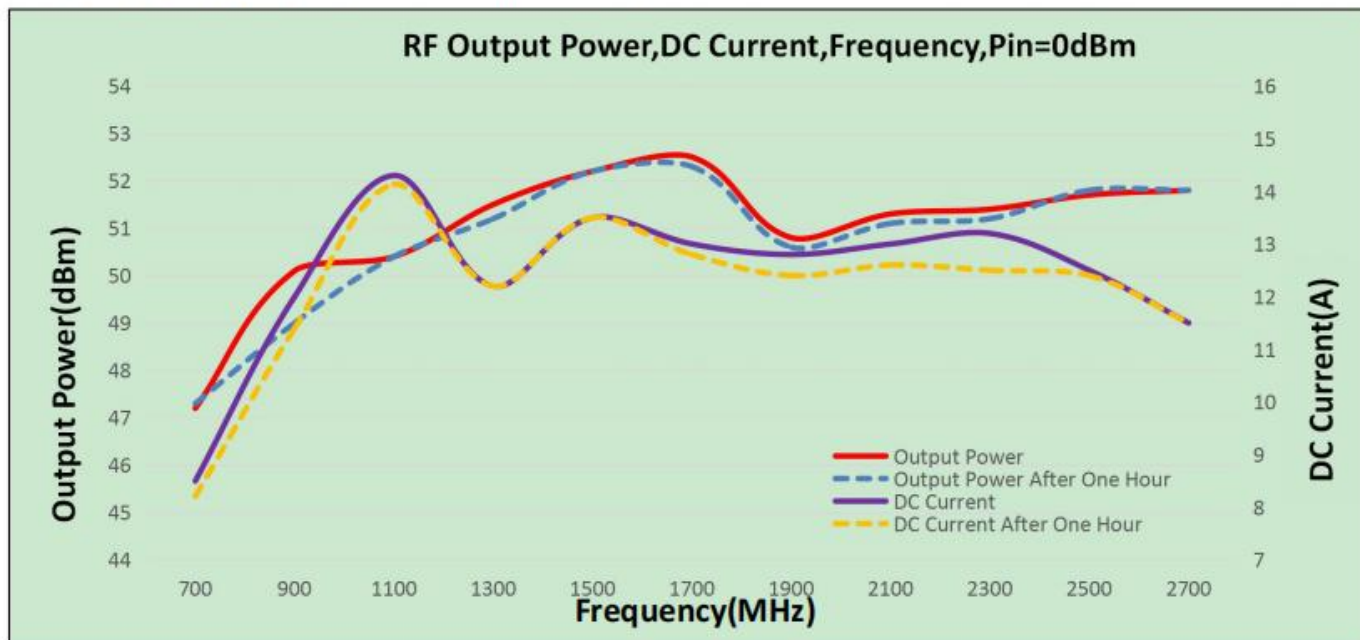
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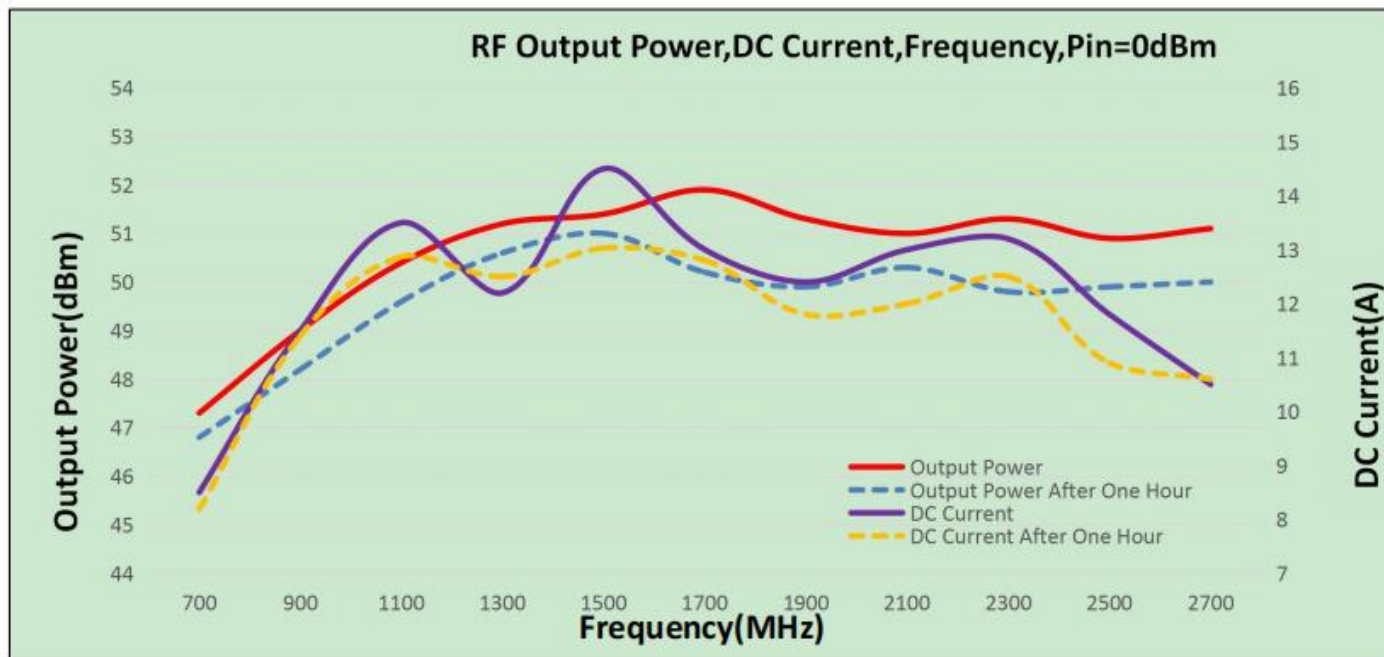
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Graph 1: RF Output Power (Low temp. $-20\pm 3^{\circ}\text{C}$)



Graph 2: RF Output Power (High temp. $+60\pm 3^{\circ}\text{C}$)



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

