

800-4000MHz/50Watt/Module

Model Number: MCW0840M47A

The model MCW0840M47A is a multi-octave high power amplifier operating between 800 MHz and 4000 MHz and offering a wide dynamic Range with 50Watts 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 RF linear applications.

FEATURES:

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

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

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	800		4000	MHz
RF Output Power	Pout		50		Watt
Power Gain	Gp		47		dB
Power Gain Flatness	Δ Gp		±2		dB
Input Return Loss	S ₁₁			-10	dB
Harmonics @20W	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
Power add efficiency	Eff		23		%
Current Consumption @ P _{OUT} = 40W	I _{DD}			13	Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	180x120x25 [7.09x4.72x0.98]	mm [inch]	Maximum
Weight	1.5[3.3]	kg [lbs]	Maximum
RF Connectors Input	SMA, Female		
RF Connectors Output	SMA, Female		
DC Interface Connector	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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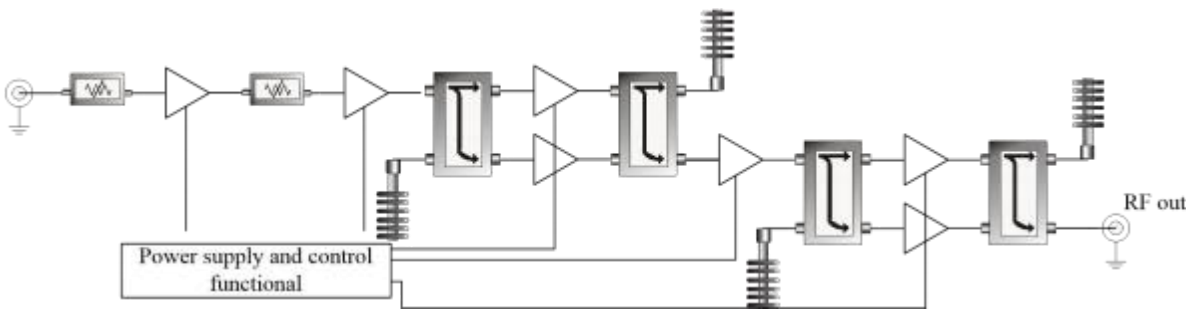
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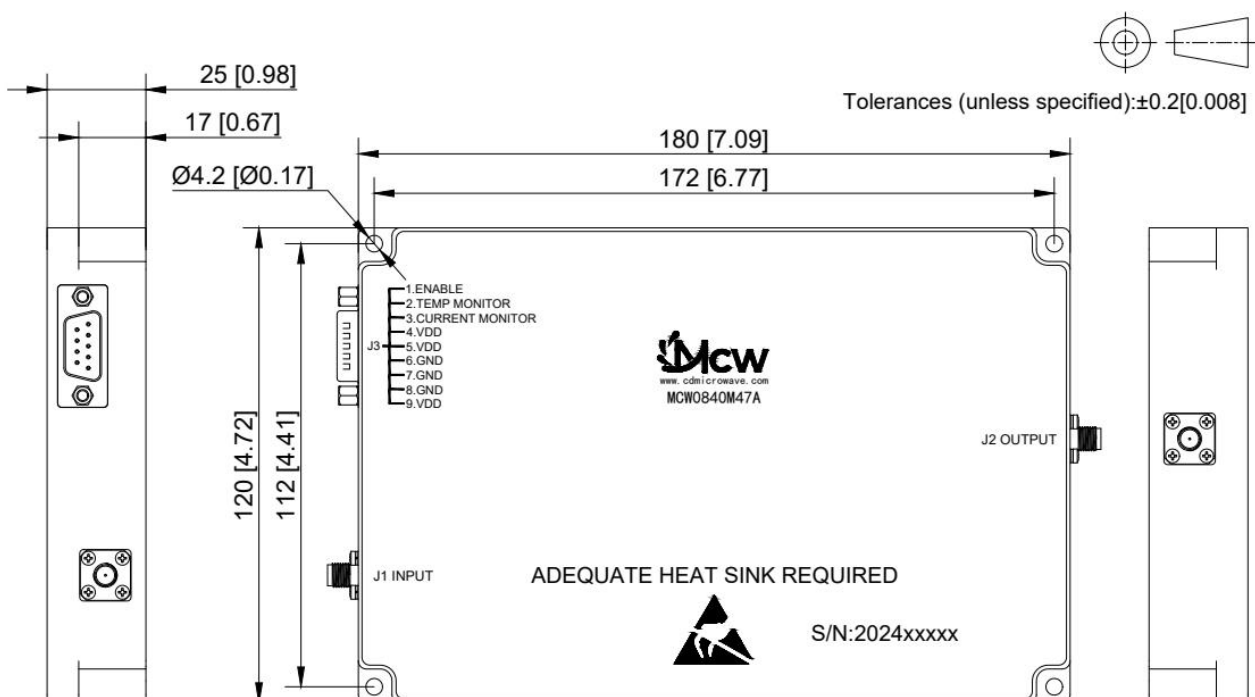
DC INTERFACE CONNECTOR

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])

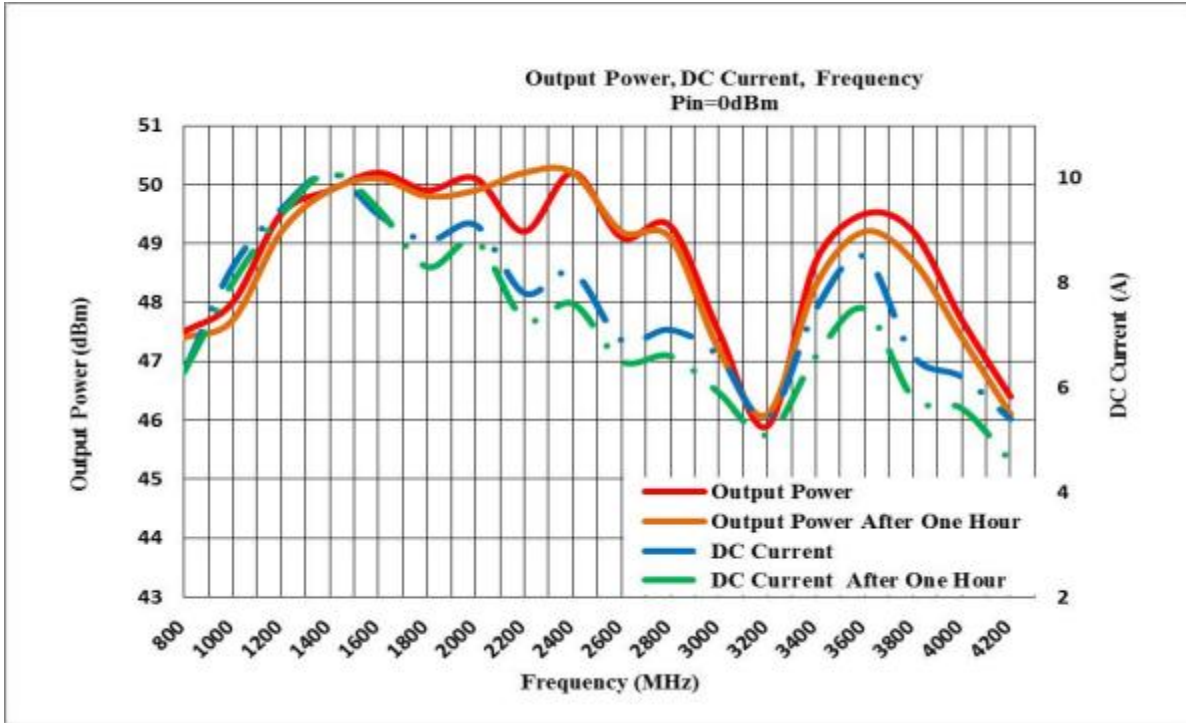


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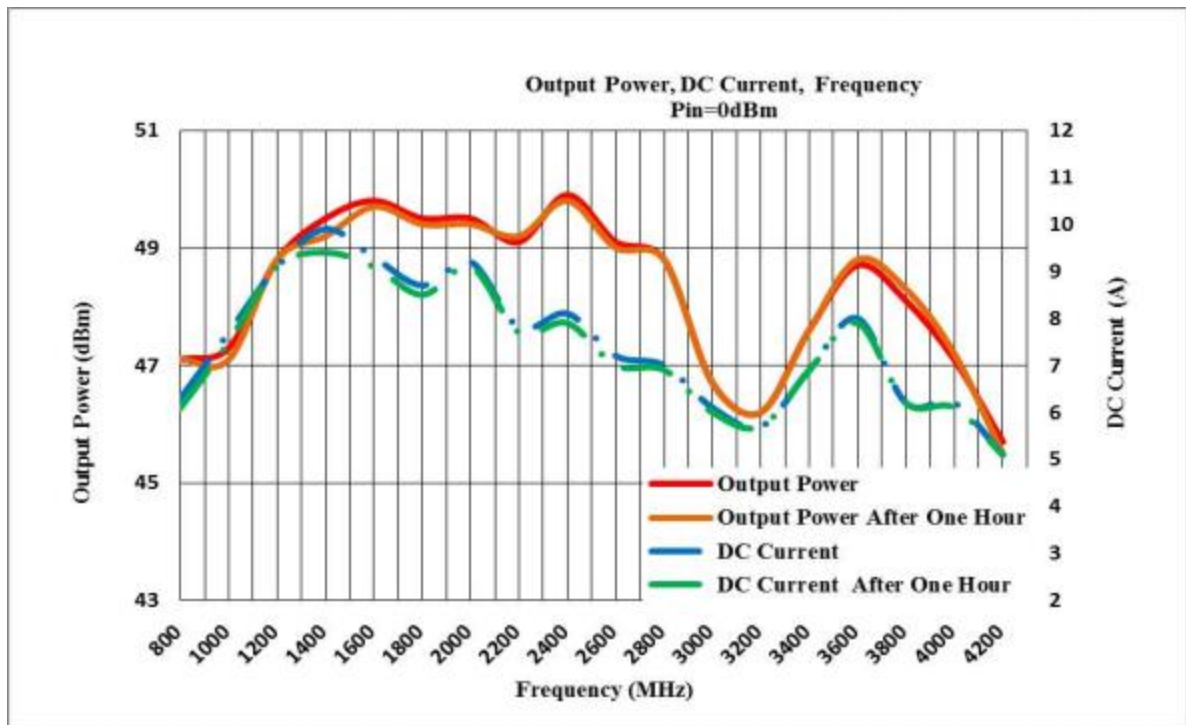
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TYPICAL PERFORMANCE PLOTS (for reference only)

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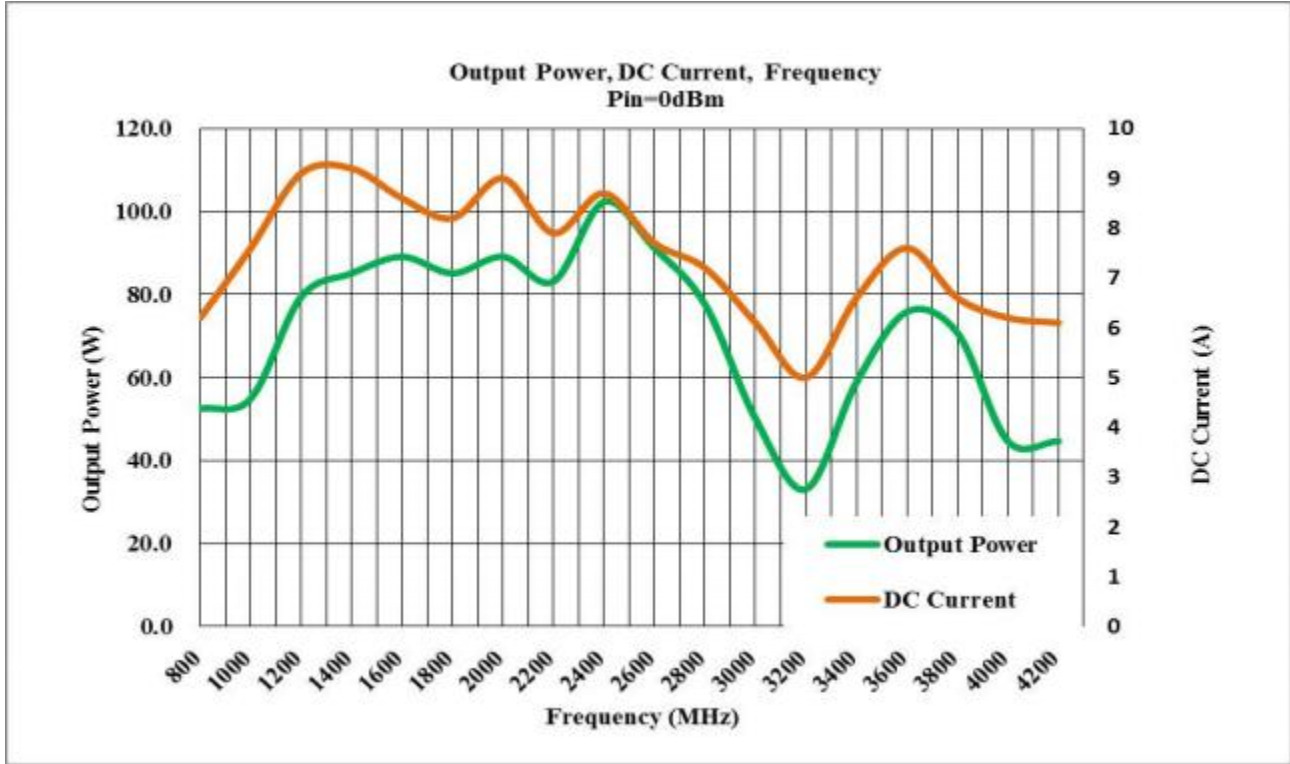
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Graph3: Output Power (Normal temp. +25±3°C)



Power Gain:



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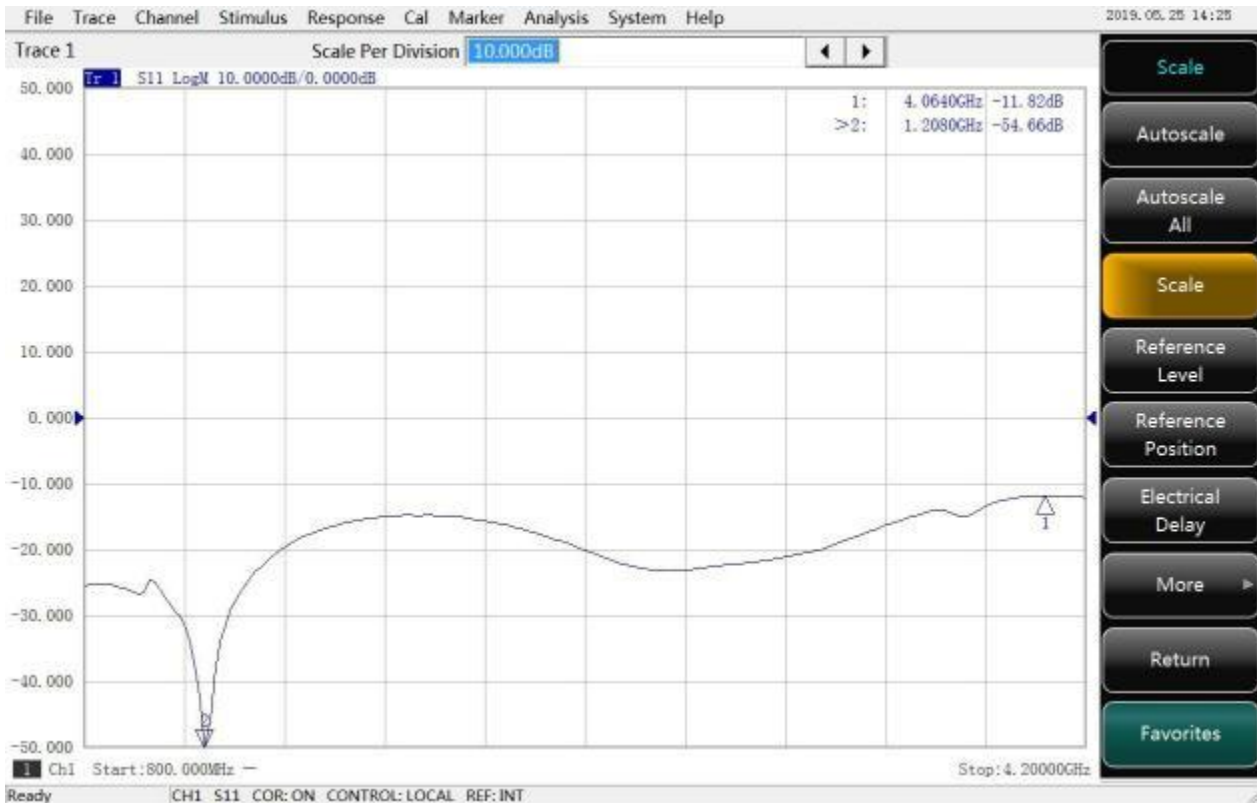
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Input Return Loss:



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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