

4.45-4.85GHz/50Watt/Module

Model Number: MCW4650M47A

The model MCW4650M47A is a high power amplifier operating between 4.45GHz and 4.85GHz and offering a wide dynamic Range with 50Watts typical saturated power. The employment of advanced high power devices in manufacturing ensures this module exceptional power performance, long term reliability and high efficiency. It is ideal for narrowband high power RF, linear applications.

FEATURES:

- Narrowband & High power
- High Efficiency
- Great Linearity
- Small Size & Light Weight
- Low Distortion

ELECTRICAL SPECIFICATIONS @ +32.0VDC, 25°C, 50Ω

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	4450		4850	MHz
RF Output Power @ Pin=27dBm	P _{sat}	40	50		Watt
Power Gain	G _p		20		dB
Gain Flatness	Δ G _p		±2		dB
Input Return Loss	S ₁₁			-10	dB
Harmonics @40W	H		-15	-10	dBc
Spurious Signals	Spur		-60	-50	dBc
Switch On/Off@10-90% Time	T _{ON/OFF}		2	5	μS
In/Output Impedance	Impedance		50		Ω
Operating Voltage	VDC	30	32	34	Volt
DC Current @50W	IDD		6	7	Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	150x90x25 [5.91x3.54x0.98]	mm [inch]	Maximum
Weight	1.2 [2.64]	kg [lbs]	Maximum
RF Connectors Input	SMA, Female		
RF Connectors Output	N, 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	-40		65	°C	Storage
Relative Humidity (non-condensing)			95	%	

Absolute Maximum Rating

Input RF drive level without damage	+30 dBm (Max)
Load VSWR @ POUT =20W	∞ @ all load phase & amplitude for duration of 1 minutes; 3:1 @ all load phase & amplitude continuous
Over Temperature	85°C @ heatsink [restored @ 60°C]

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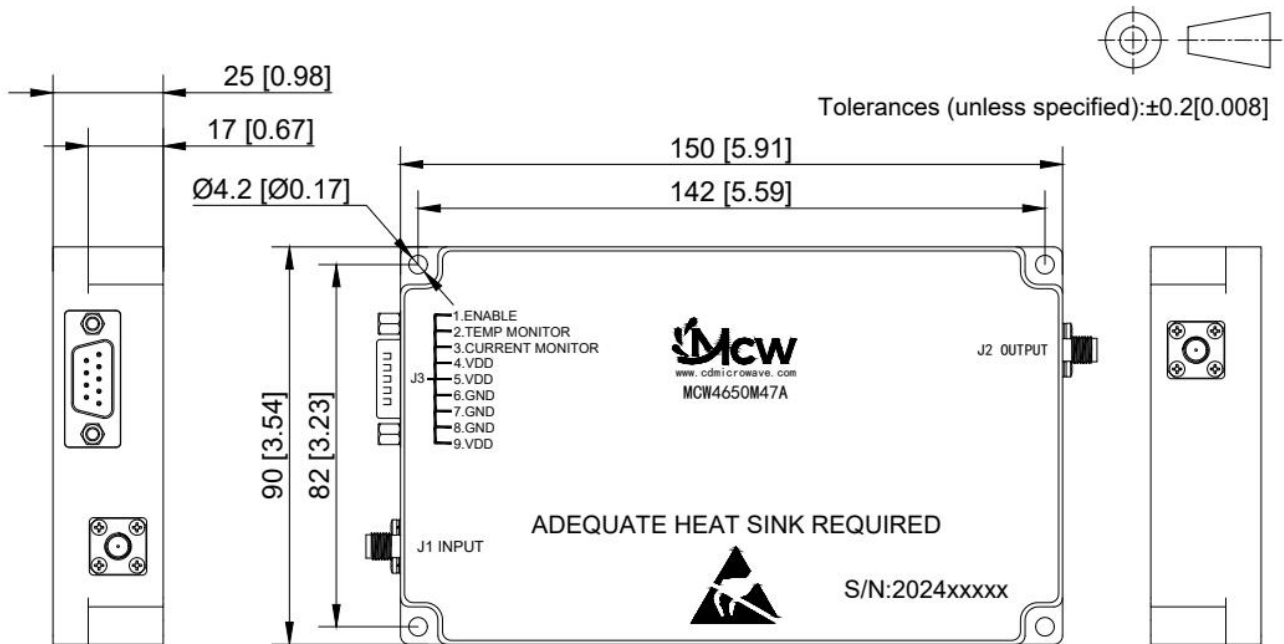
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DC INTERFACE CONNECTOR

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

OUTLINE DRAWING (All dimensions in mm [inch])



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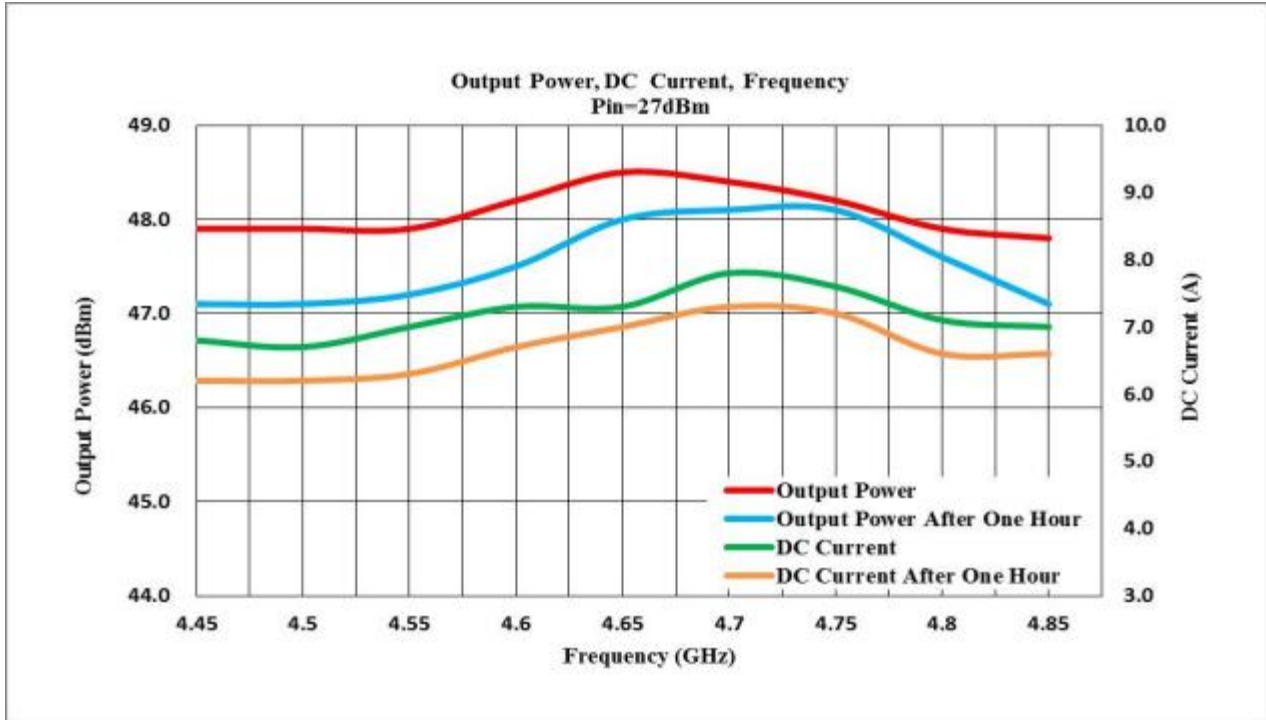
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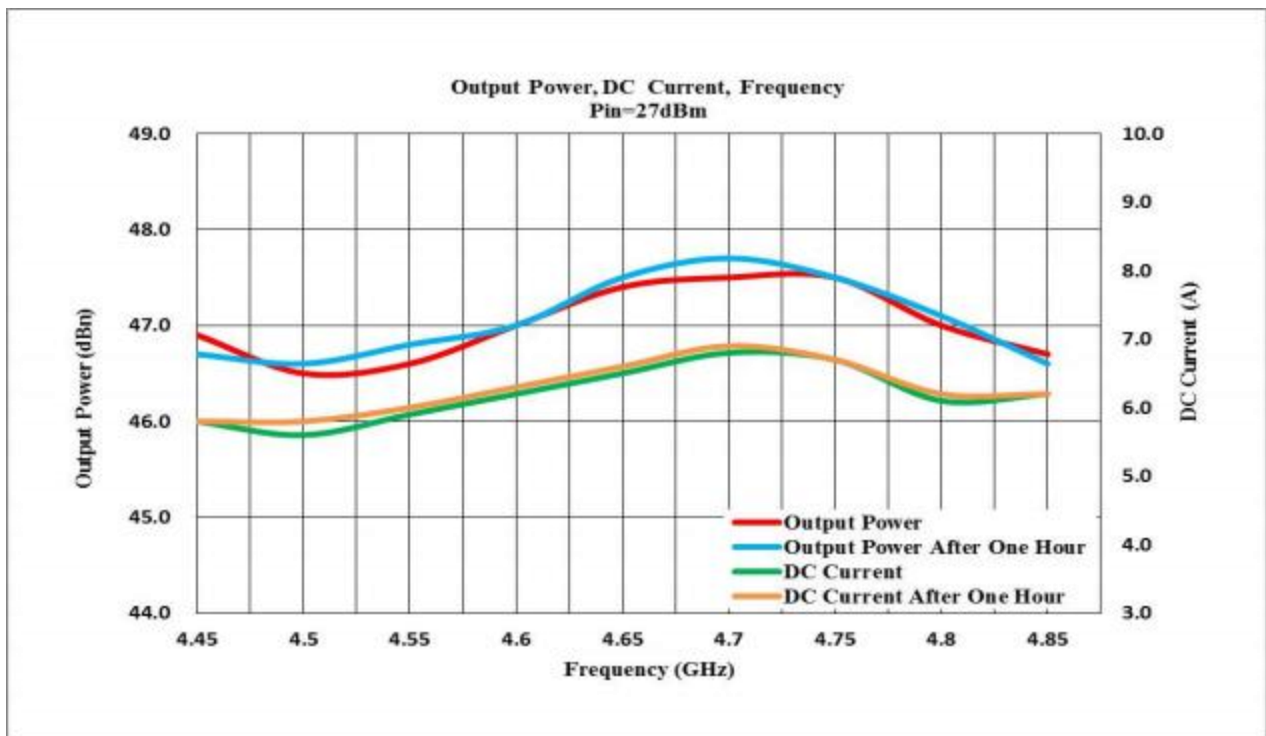
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TYPICAL PERFORMANCE PLOTS (FOR REFERENCE)

Graph1: Output Power (Low temp. -20±3°C)



Graph2: Output Power (High temp. +60±3°C)



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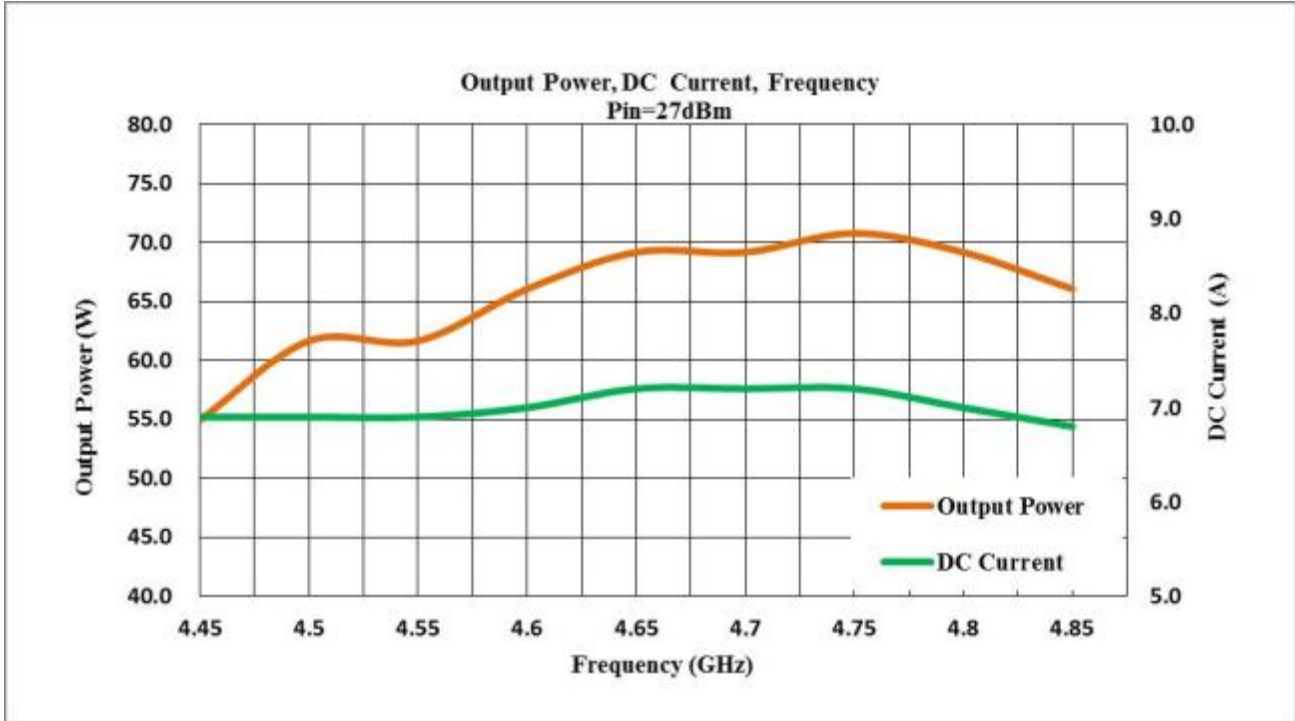
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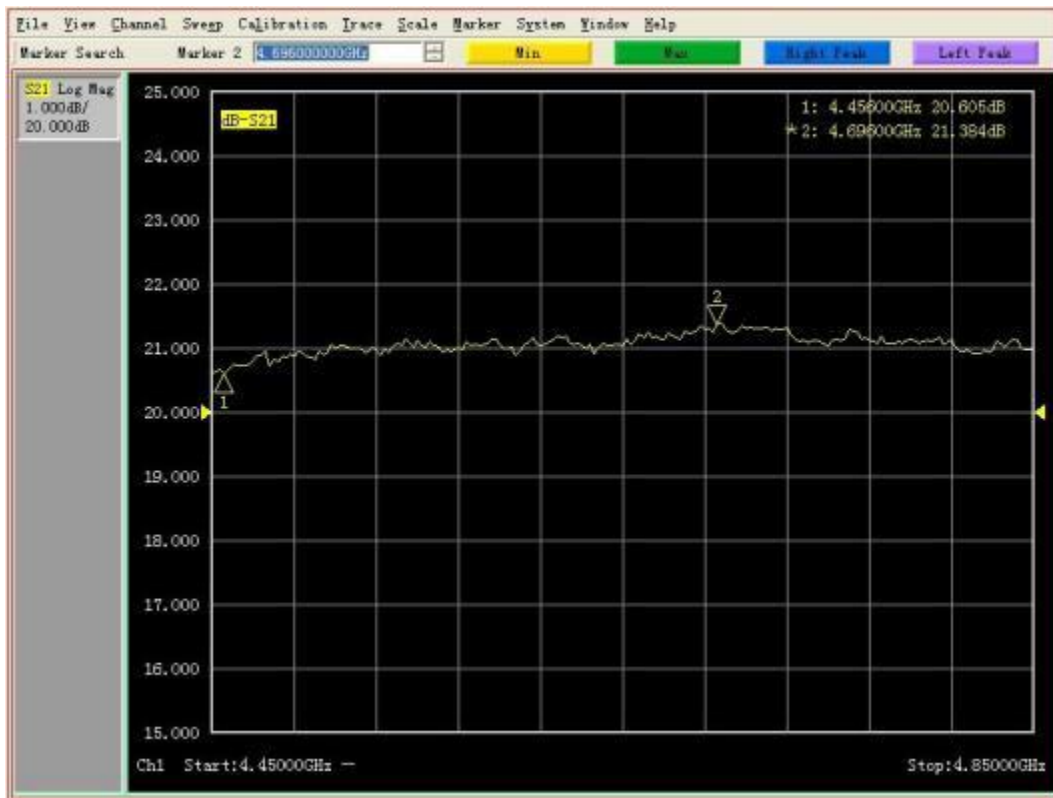
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Graph3: Output Power (Normal temp. +25±3°C)



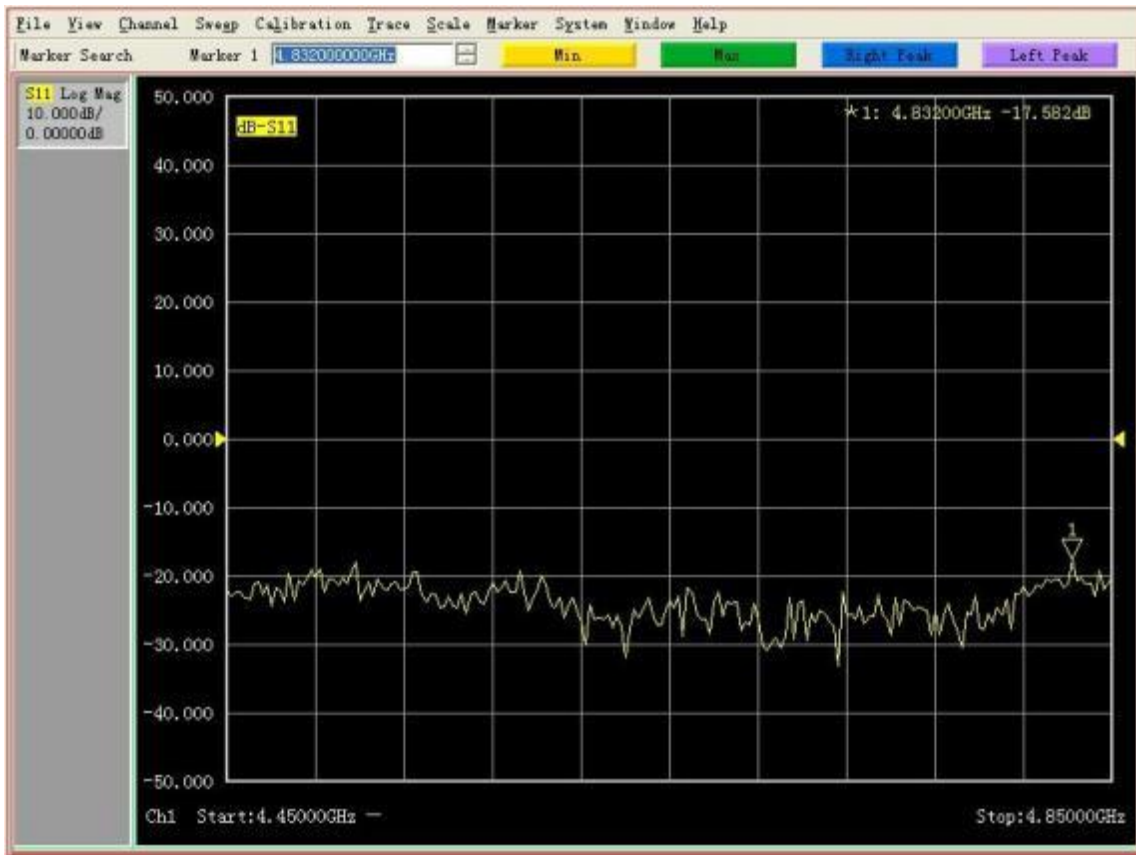
Power Gain:



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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](mailto:info@cdmicrowave.com) sales team or E-mail to info@cdmicrowave.com if you have any more questions.

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