

1.5-30MHz/50Watt/Module

Model Number: MCW0001003M47A

The MCW0001003M47A is suitable for multi-octave broadband high power RF, VHF linear applications. This compact module utilizes advanced high power devices that provide excellent power density, high efficiency, wide dynamic range and low distortions. Exceptional performance, long term reliability and high efficiency are achieved by employing advanced broadband RF matching networks and combining techniques, EMI/RFI filters, machined housings and qualified components. MCW's ISO9001 Quality Assurance Program assures consistent performance and the highest reliability.

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	1.5		30	MHz
RF Output Power	P _{out}		50		Watt
Power Gain	G _p		47		dB
Small Signal Gain Flatness	G _{ss}		±2		dB
Input Return Loss	S ₁₁			-10	dB
Harmonics @25W	H		-10		dBc
Spurious Signals	Spur		-60		dBc
In/Output Impedance			50		Ω
Operating Voltage	V _{DC}	26	28	30	Volt
DC Current @50W	I _{DD}		5		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions	150x90x25[5.91x3.54x0.98]	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 (Not Supplied)		

ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Minimum	Typical	Maximum	Units	Notes
Operating Temperature	-20		60	°C	
Non-operating Temperature	-25		65	°C	Storag
Relative Humidity (non-condensing)			95	%	

Absolute Maximum Rating

Input RF drive level without damage	+10 dBm	Maximum
Load VSWR @ P _{OUT} =25W	∞ @ all load phase & amplitude for duration of 1 minute; 3:1 @ all load phase & amplitude continuous	
Thermal Overload	85°C shutdown	Maximum

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Broadband High Power Amplifier Module (SSPA)

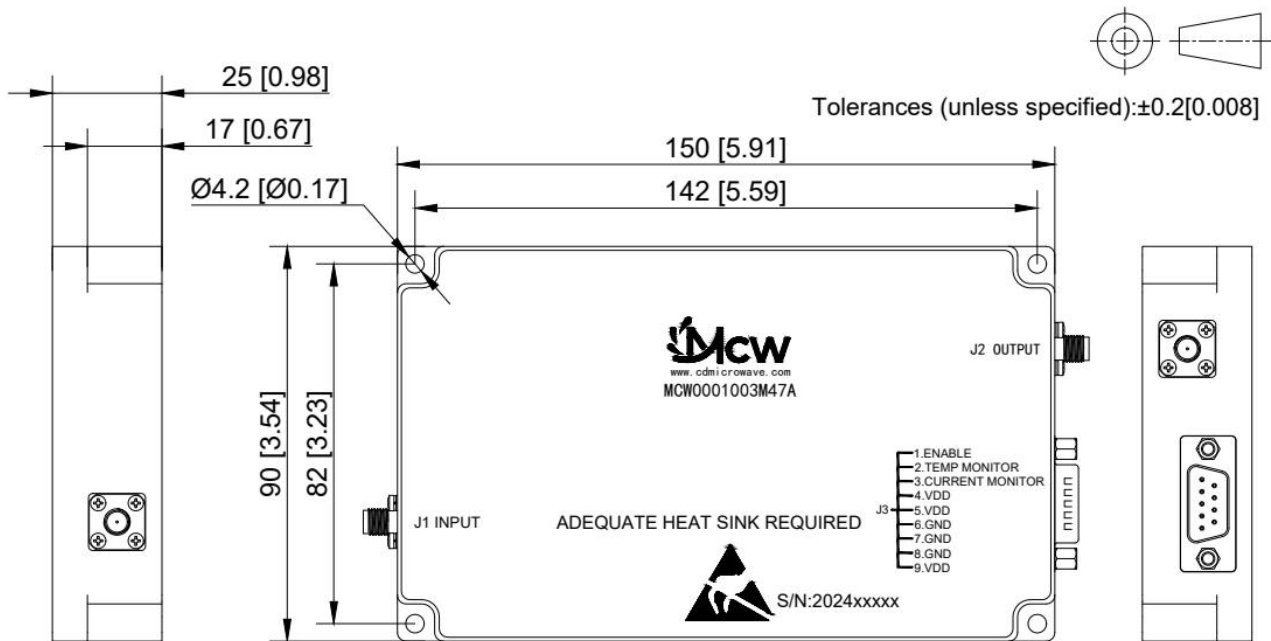
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DC INTERFACE CONNECTOR

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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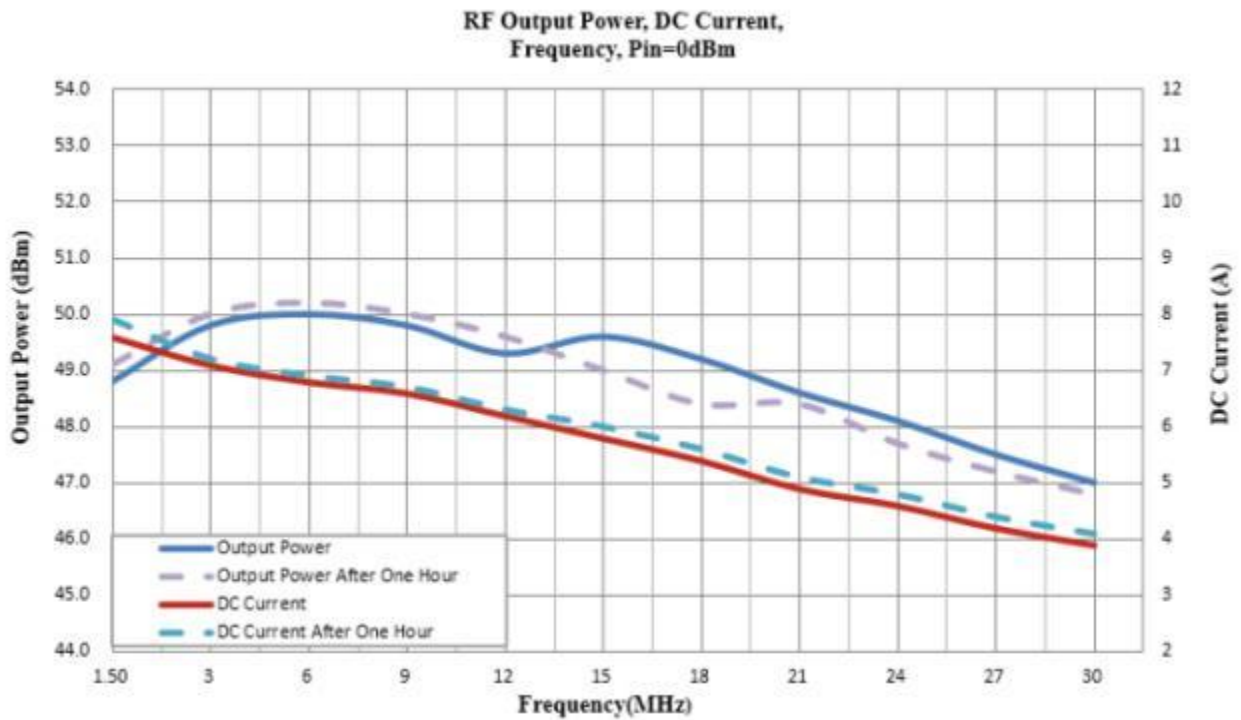
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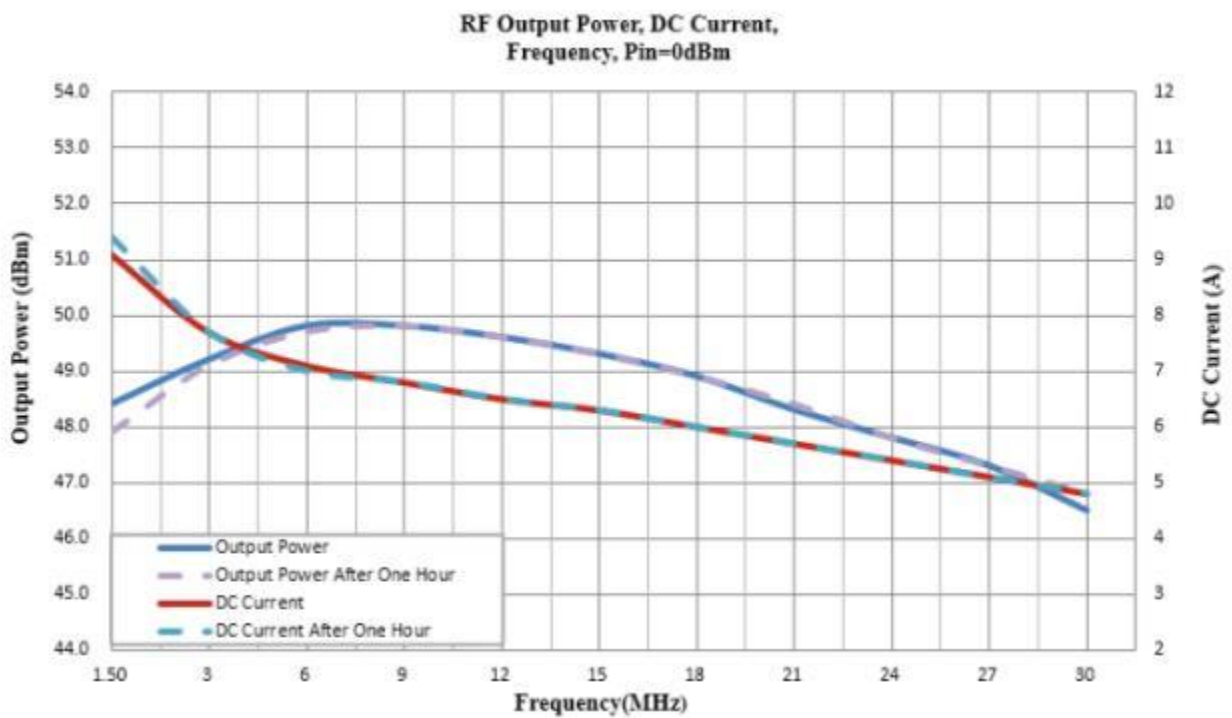
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TYPICAL PERFORMANCE PLOTS

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



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



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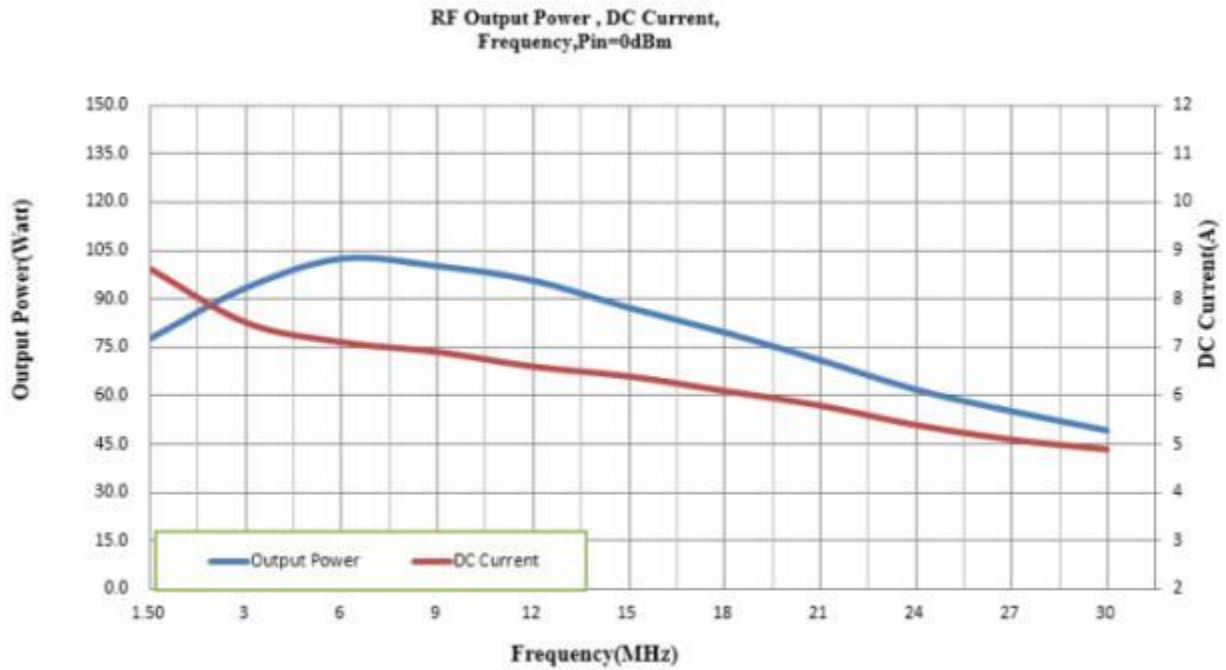
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RF Output Power (Normal temp. +25±3 °C)



Small Signal Gain Flatness



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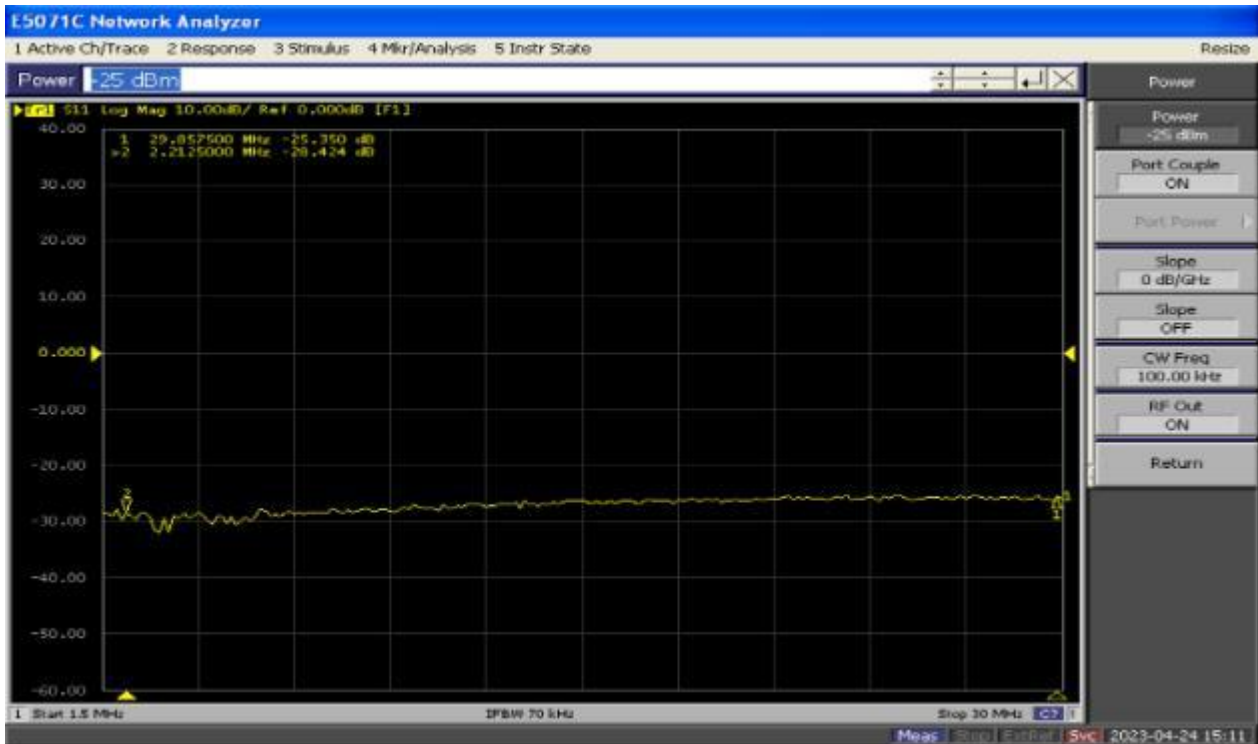
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Input Return Loss



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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