

5600-5800MHz/50Watt/Module

Model Number: MCW5700M47A

The model MCW5700M47A is a multi-octave high power amplifier operating between 5600 MHz and 5800 MHz and offering a wide dynamic Range with 50 Watts 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	5600		5800	MHz
RF Output Power	PPK		50		Watt
Duty Cycle	Duty Cycle		10		%
Pulse Width	PWIDTH		0.3		μS
PRI	PRI		3		μS
Power Gain	Gp		37		dB
Power Gain Flatness	Δ Gp		±1		dB
Input Return Loss	S11			-10	dB
Harmonics @20W	H		-15		dBc
Spurious Signals	Spur		-60		dBc
Rise /Fall time (Pulse Performance)	TRISE/FALL/OFF (10-90)		200		nS
PA Switch On/Off@10-90% Time	TON/OFF		2		uS
RF Switch On/Off@10-90% Time	TON/OFF		200		nS
Power droop@ PW=10μS, DC=10%	Droop		1		dB
In/Output Impedance	Impedance		50		Ω
Operating Voltage	VDC	24	28	32	Volt
Power add efficiency	Eff		45		%
Current Consumption @ P _{OUT} = 50W (Duty Cycle10%)	IDD		1		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	160x90x25[6.3x3.54x0.98]	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	+15 dBm (Max)
Load VSWR @ P _{OUT} =50W	∞ @ all load phase & amplitude for duration of 1 minutes; 3:1 @ all load phase & amplitude continuous

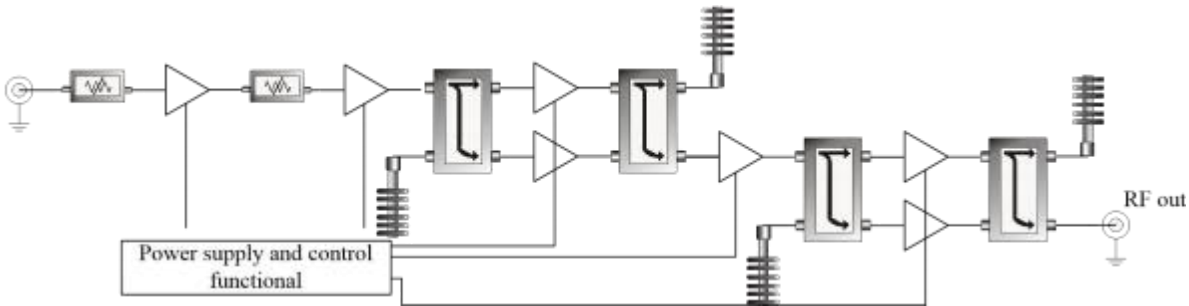
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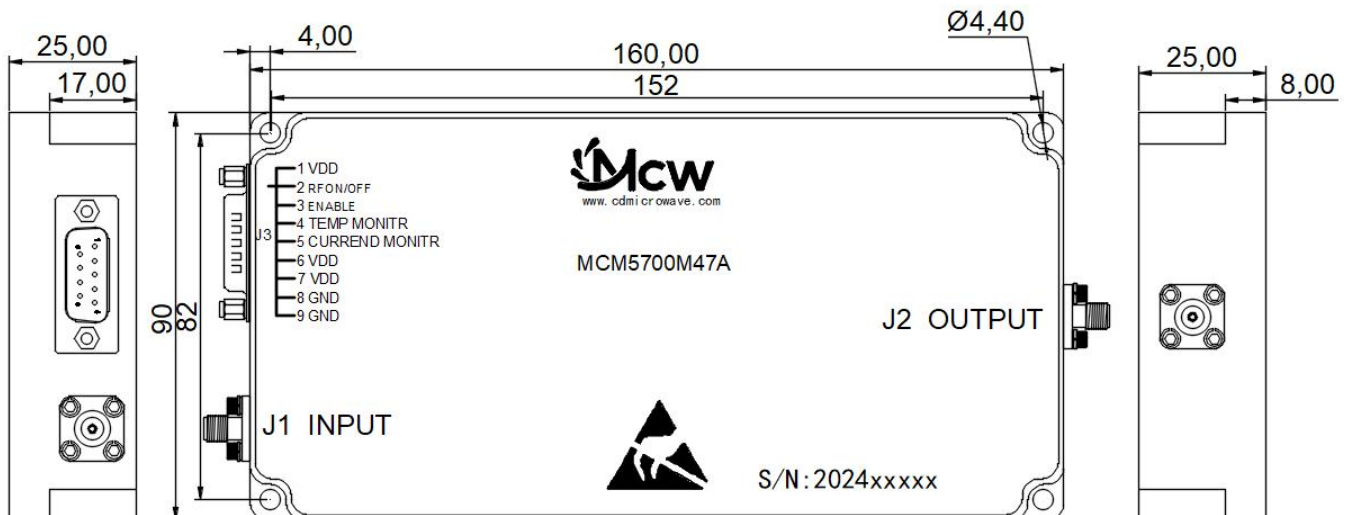
DC INTERFACE CONNECTOR

Pin #	Description	Specifications
1	VDD	28VDC
2	RFON/OFF	Radio-Frequency signal Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
3	ENABLE	Amplifier Disable: TTL Logic High (3.3V) (Internally Pulled-Low)
4	Temperature Sense	Analog voltage relative to Module's Temperature @ 10 mV/°C
5	Current Monitor	Analog voltage relative to IDD @ 100mV per Ampere
6	VDD	28VDC
7	VDD	28VDC
8	GND	Ground
9	GND	Ground

Functional Diagram



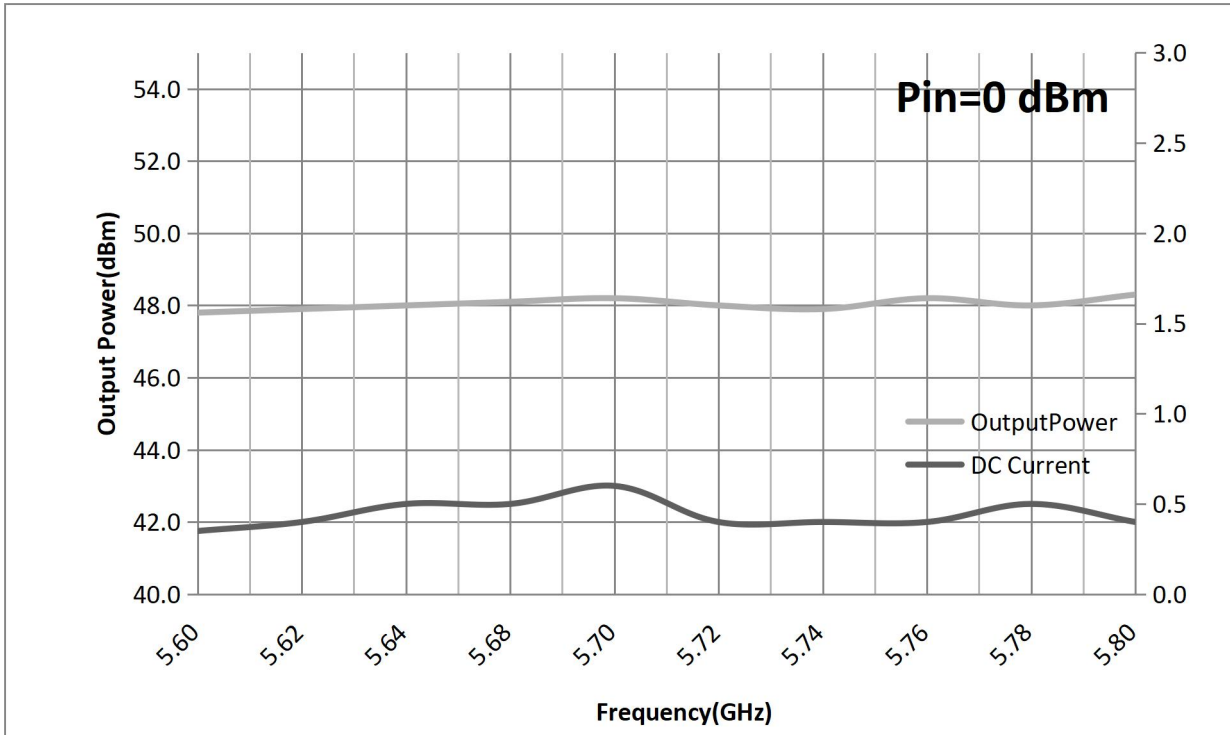
OUTLINE DRAWING (All dimensions in mm[inch])



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TYPICAL PERFORMANCE PLOTS (Low temp. -20±3)



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