



**MODEL MPM90100P47A**  
**9~10GHz**  
**50 WATTS**  
**X-BAND PULSED POWER RF AMPLIFIER**

**Advantages:**

- Operating Frequency :9~10GHz
- Power Gain:47dB Typical
- Psat:50W Typical
- Supply Voltage:+28V
- 50 Ohms Input and Output Matched

**ELECTRICAL SPECIFICATIONS @ +28.0VDC, 25°C, 50Ω, 100 μS, Duty Cycle=25%**

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	9		10	GHz
RF Output Power[CW]@Pin=0dBm	P <sub>SAT</sub>		50		Watt
Power Gain	G <sub>p</sub>		47		dB
Power Gain Flatness	Δ G <sub>p</sub>		±2		dB
Power droop	Droop		0.5	1	dB
Duty Cycle	Duty Cycle	1	30		%
Pulse Width	P <sub>WIDTH</sub>	2	300		μS
Input Return Loss	S <sub>11</sub>			-10	dB
Harmonics @ Pout = 50W	H		-25		dBc
Spurious Signals	Spur		-60		dBc
Rise /Fall time (Pulse Performance)(10-90%)	TRISE/ <sub>FALL/OFF</sub>		100		ns
Switch On/Off@10-90% Time,1kHz	T <sub>ON/OFF</sub>		2	5	μs
In/Output Impedance	Impedance		50		Ω
Operating Voltage	V <sub>DC</sub>	26	28	32	Volt
DC Current @40W [CW]	I <sub>DD</sub>		11		Amp

**MECHANICAL SPECIFICATIONS**

Parameter	Value	Units	Notes
Dimensions	160x120x22 [6.3x4.7x0.86]	mm [inch]	Maximum
Weight	2 [4.4]	kg [lbs]	Maximum
RF Connectors Input	SMA, Female		
RF Connectors Output	SMA, Female		
DC Interface Connector	Hybrid, D-Sub 7-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	+5 dBm (Max)
Load VSWR @ P <sub>OUT</sub> =30W	5:1 @ all load phase & amplitude for duration of 1 minute; 3:1 @ all load phase & amplitude continuous.
Over Temperature	85°C @ heatsink [restored @ 60° C]

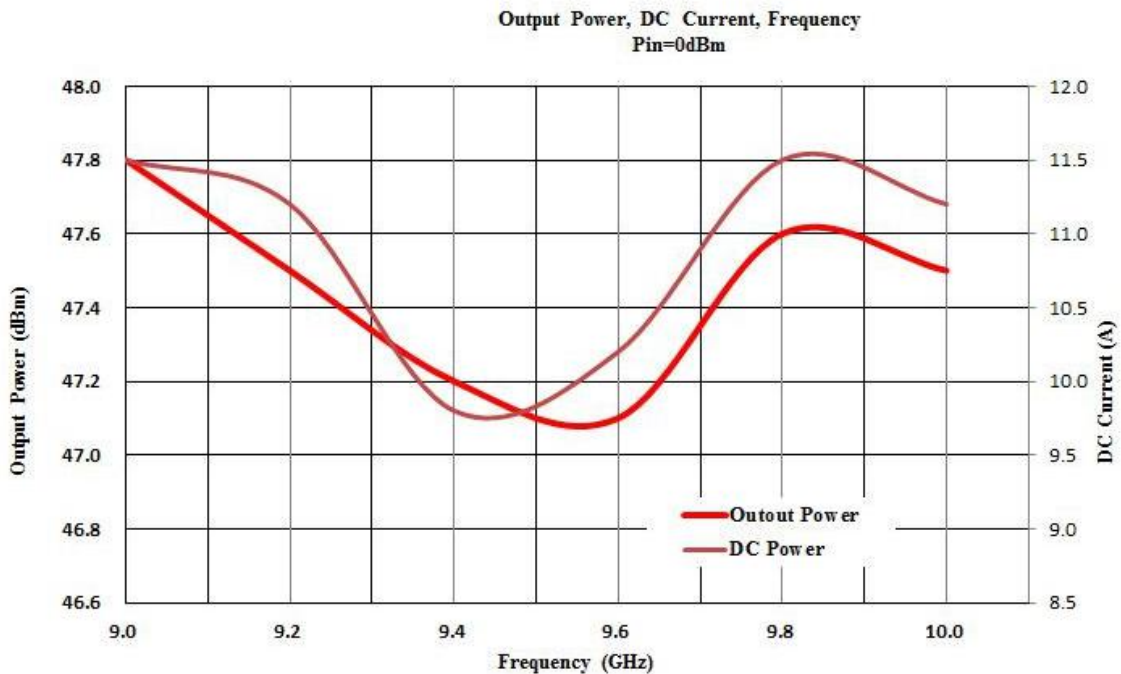
**POWER INTERFACE CONNECTOR**

Male D-Sub is on the housing

Pin #	Description	Specifications
A1	VDD	28VDC
A2	GND	Ground
1	ENABLE	Amplifier Enable:: TTL Logic High (3.3V~5V) (Internally Pulled-Low)
2	TEMP SENSE	Analog voltage relative to Module's Temperature @ 0.5V+10 mV/°C
3	CURRENT SENSE	Analog voltage relative to I <sub>DD</sub> @ 100mV per Ampere
4	NC	No electrical connection
5	GND	Ground

**TYPICAL PERFORMANCE PLOTS (FOR REFERENCE ONLY)**

Output Power (Normal temp. +25±3°C)



**Note:** Adequate heatsink required.