



**MODEL MPM90100P50A**  
**9~10GHz**  
**100 WATTS**  
**X-BAND PULSED POWER RF AMPLIFIER**

**Advantages:**

- Operating Frequency :9~10GHz
- Power Gain:50dB Typical
- Psat:100W Typical
- Supply Voltage:+28V
- 50 Ohms Input and Output Matched

**ELECTRICAL SPECIFICATIONS @ +28.0VDC, 25°C, 10μS, 10%, 50Ω**

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	9		10	GHz
RF Output Power	P <sub>PK</sub>		100		Watt
RF Output Power@ Pout =100W	PIN	-1	0	1	dBm
Duty Cycle	Duty Cycle			15	%
Pulse Width	P <sub>WIDTH</sub>	2		100	μS
PRI	PRI	70		1300	μS
Harmonics@ Pout = 80W	H		-40		dBc
Spurious Signals	Spur		-55		dBc
Input Return Loss/ Output Return Loss	S <sub>11</sub> /S <sub>22</sub>		-10		dB
Rise /Fall time (Pulse Performance)(10-90%)	TRISE/ <sub>FALL/OFF</sub>		50		ns
Switch On/Off@10-90% Time,1kHz	T <sub>ON/OFF</sub>		2	5	μs
Power droop	Droop		0.5		dB
In/Output Impedance	Impedance		50		Ω
Operating Voltage	V <sub>DC</sub>	26	28	32	Volt
Peak Current Consumption @ Pout =100W	I <sub>DD</sub>			15	Amp
Average Current Consumption @ Pout =100W	I <sub>DD</sub>		5		Amp

**MECHANICAL SPECIFICATIONS**

Parameter	Value	Units	Notes
Dimensions	200x125x25 [7.87x4.92x0.98]	mm [inch]	Maximum
Weight	3 [6.6]	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 (Optional supplying)		

**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> =80W	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]

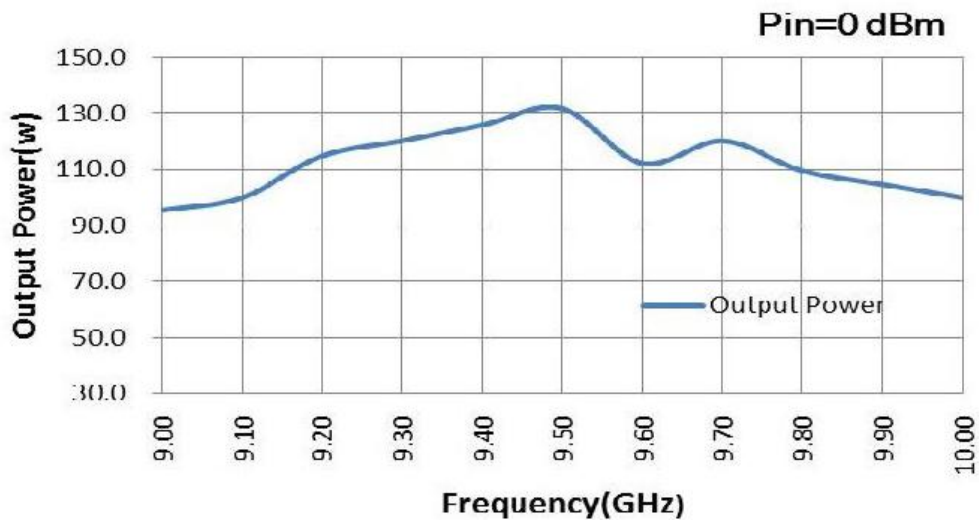
**POWER INTERFACE CONNECTOR**

Male D-Sub is on the housing

Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	28VDC
1	RF ON/OFF	RF On: TTL Logic High (2.8-5.5V) Amplifier Radiate / To forbid radiate
2	TX-GATE	TX-GATE On: TTL Logic High (2.8-5.5V) Amplifier Standby /operating
3	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
4	TEMP SENSE	Analog voltage relative to Module's Temperature @ 0.5V+10 mV/°C
5	GND	Ground

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

Output Power (Normal temp. +25±3°C)



**Note:** Adequate heatsink required.