



**MODEL MPM8596P50B**  
**8.5~9.6GHz**  
**100 WATTS**  
**X-BAND PULSED POWER RF AMPLIFIER**

**Advantages:**

- Operating Frequency :8.5~9.6GHz
- Power Gain:50dB Typical
- Psat:100W Typical
- Supply Voltage:+28V
- 50 Ohms Input and Output Matched

**ELECTRICAL SPECIFICATIONS @ +28VDC, 25°C, 50Ω**

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	8.5		9.6	GHz
RF Output Power	P <sub>PK</sub>		100		Watt
Duty Cycle	Duty Cycle			10	%
Pulse Width	P <sub>WIDTH</sub>	2		100	μS
Harmonics @ Pout = 80W	H		-30		dBc
Spurious Signals	Spur		-55		dBc
RF Input Power @ Pout = 100W	P <sub>IN</sub>	-1	0	1	dBm
Input Return Loss	S <sub>11</sub>		-10		dB
Rise /Fall time (Pulse Performance)(10-90%)	T <sub>RISE/FALL</sub>		50		nS
Switching Speed	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>			20	Amp
Average Current Consumption@Pout=100W	I <sub>DD</sub>		10		Amp
Power Added Efficiency	Efficiency		15		%

**MECHANICAL SPECIFICATIONS**

Parameter	Value	Units	Notes
Dimensions	180x 100 x25 [7.08x3.94x0.98]	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 (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> =60W	∞ @ all load phase & amplitude for duration of 30 minutes; 3:1 @ all load phase & amplitude continuous.
Over Temperature	85°C shutdown

**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 (2.8-5V) Amplifier Radiate / To forbid radiate
2	TX-GATE	TX-GATE On: TTL Logic High (2.8-5V) Amplifier Standby / operating
3	CURRENT SENSE	Analog voltage relative to I <sub>DD</sub> @ 100mV per Ampere
4	TEMP SENSE	Analog voltage relative to Module's Temperature @ 0.5V+10 mV/°C
5	GND	Ground

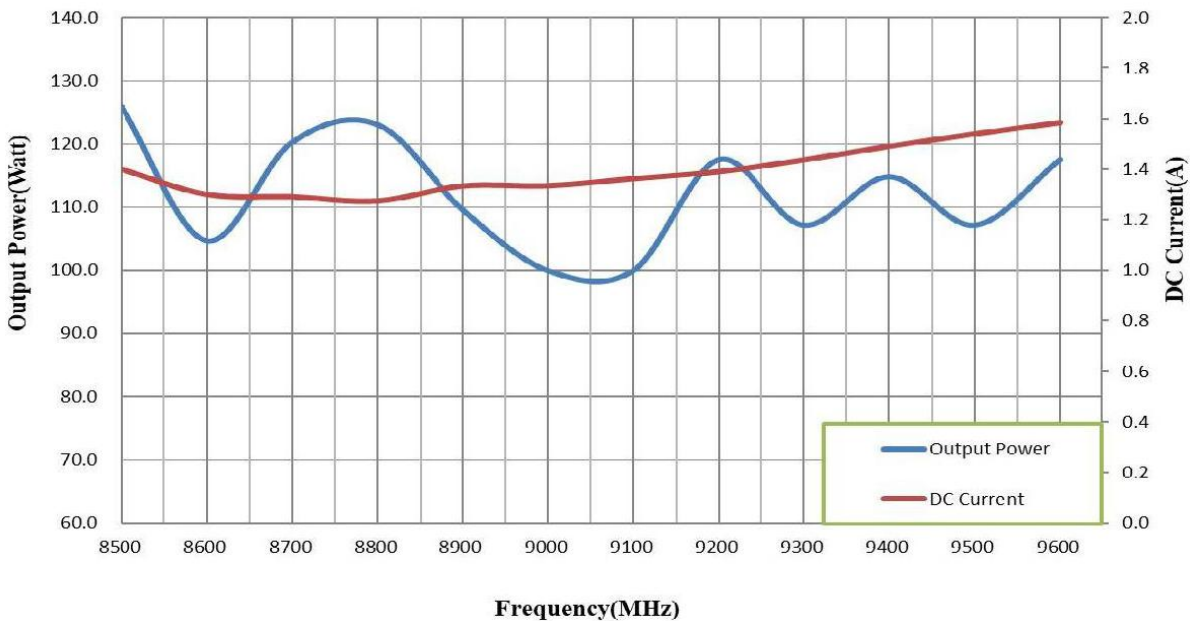
**PROTECTION AND WARNING FUNCTION**

- Over threshold of VSWR (High VSWR)
- Over threshold of duty cycle (High duty cycle)
- Over threshold of current
- Over threshold of temperature

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

Output Power (Normal temp. +25±3°C)

RF Output Power, DC Current, Frequency, Pin=0dBm



**Note:** Adequate heatsink required.

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