

# MPM-08MB Series

## Single & Dual Output, 8W Miniature "Power Brick" AC/DC Power Supplies



### Key Features:

- 8W Output Power
- Miniature Case
- Wide 90-305 VAC Input
- EN 60950 Approved (UL)
- Meets IEC Safety Class II
- Meets EN 55022 B
- Eight Standard Models
- >350 kHour MTBF

### Electrical Specifications

Specifications typical @ +25°C, 230 VAC input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input					
Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Range		90		305	VAC
		120		430	VDC
Input Frequency		47		440	Hz
Input Current	See Model Selection Guide				
Inrush Current	115 VAC		25.0		A Pk
	230 VAC		45.0		
Leakage Current				0.25	mA
EMI	Meets CISPR Pub. 22/FCC Class B				
EMC	Meets EN 55024				

Output					
Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage	See Model Selection Guide				
Output Current	See Model Selection Guide				
Output Voltage Accuracy	See Note 1		±2.0		%
Line Regulation, See Note 2	V <sub>IN</sub> = Min to Max		±0.2		%
Load Regulation, See Note 3	See Model Selection Guide				
Ripple (20 MHz), See Note 4	3.3, 5, 9, 12, 15 Vout Models			100	mV P - P
	24 Vout Models			150	
	Dual Output Models			100	
Noise	3.3, 5, 9, 12, 15 Vout Models			150	mV P - P
	24 Vout Models			200	
	Dual Output Models			150	
Hold-Up Time	115 VAC		10		mSec
	230 VAC		75		
Temperature Coefficient			±0.02		%/°C
Over Voltage Protection	Zener Diode Clamp		120		% of Vo
Short Circuit Protection, See Note 5	Continuous (Autorecovery)				
Overload Protection		115	150		% of I <sub>o</sub>

General					
Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	Input to Output	3,000			VAC
Isolation Resistance	500 VDC	100			MΩ
EMC Compliance	Conducted	EN 55022 Level B			
	Electrostatic Discharge (ESD)	EN 61000-4-2 Level B			
	RF Field Susceptibility	EN 61000-4-3			
	Electrical Fast Transients/Bursts On Mains	EN 61000-4-4 Level 3 2 kV			
	Surge	EN 61000-4-5 Level 3 1kV/2 kV			
Switching Frequency			132		kHz

Environmental					
Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range, Ambient	5.0/3.3 Vout Model	-25	+25	+70	°C
	All Other Models	-40	+25	+70	
Storage Temperature Range		-40		+125	°C
Cooling	Free Air Convection (See Derating Curves)				
Humidity	RH, Non-condensing			95	%

Physical					
Parameter	Conditions	Min.	Typ.	Max.	Units
Case Size		1.44 x 1.06 x 1.04 Inches (36.5 x 27.0 x 26.4 mm)			
Case Material	Non-Conductive Plastic & Fiberglass (UL94-V0)				
Weight		1.58 Oz (45g)			

Reliability Specifications					
Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	350			kHours
Vibration	10-55 Hz, 20G 1 min/1 Cycle. Period of 3 min each along X, Y & Z Axis				
Safety Approvals	UL, cUL; File No. E245422				
Safety Class	IEC 61140 Class II				



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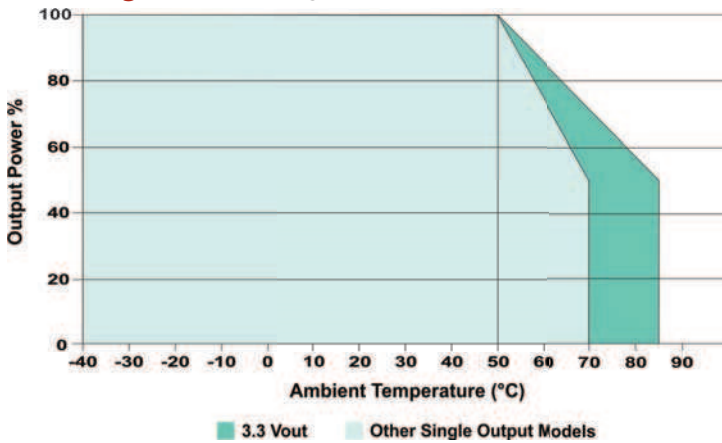


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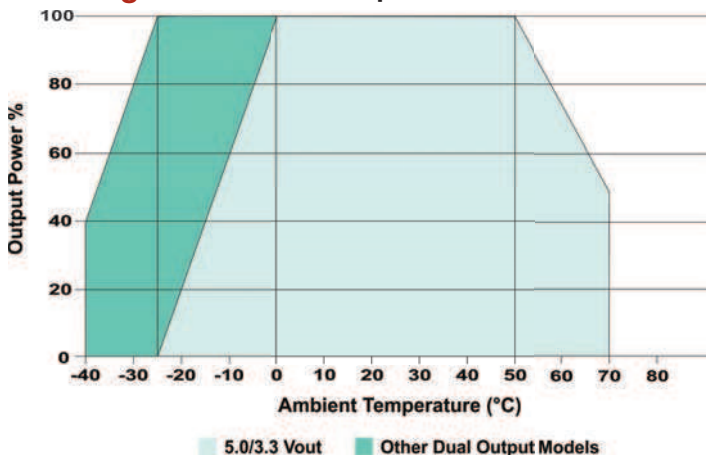
Model Number	Input		Output			Load Regulation (% Max)	Maximum Capacitive Load (μF)	Maximum Output Power (W)	Efficiency (% Typ)
	Current (A)		Voltage (VDC)	Current					
	115 VAC	230 VAC		Max. (A)	Min. (%)				
MPM-08S-03MB	0.190	0.120	3.3	2.000	0.0	±3.0	26,000	6.60	72
MPM-08S-05MB	0.190	0.120	5.0	1.600	0.0	±2.0	6,000	8.00	78
MPM-08S-09MB	0.190	0.120	9.0	0.888	0.0	±0.5	2,300	8.00	79
MPM-08S-12MB	0.190	0.120	12.0	0.666	0.0	±0.5	1,050	8.00	79
MPM-08S-15MB	0.190	0.120	15.0	0.533	0.0	±0.5	440	8.00	80
MPM-08S-24MB	0.190	0.120	24.0	0.335	0.0	±0.5	180	8.00	81
MPM-08D-0503MB	0.200	0.125	5.0	1.600	25.0	±0.5	4,500	9.00	76
			3.3	0.310	25.0	±5.0			
MPM-08D-1205MB	0.200	0.125	12.0	0.666	25.0	±0.5	260	8.50	79
			5.0	0.100	25.0	±5.0			

- Notes:
- The output voltage accuracy of the V<sub>2</sub> output (pin 5) on dual outputs is ±15% for the MPM-08D-0503MB, and ±10% for the MPM-08D-1205MB.
  - The line regulation of the dual output models is ±2.0% for the V<sub>1</sub> output (pin 4), and ±3% for the V<sub>2</sub> output (pin 5).
  - Load regulation is measured from 10% load to 100% load.
  - Ripple and noise are measured at 20 Mhz bandwidth with a 0.1 μF and a 47 μF capacitor connected in parallel as close to the unit output terminals as possible.
  - Output short circuit protection is provided by a "hiccup mode" circuit. The unit recovers automatically when the fault condition is removed.
  - Operation under no load conditions will not damage single output units. For dual output units, minimum load requirements are given in the table above.
  - It is recommended that a fuse be used on the input of a power supply for protection. For the MPM-08MB series, a 2A/250 VAC slow blow should be used.

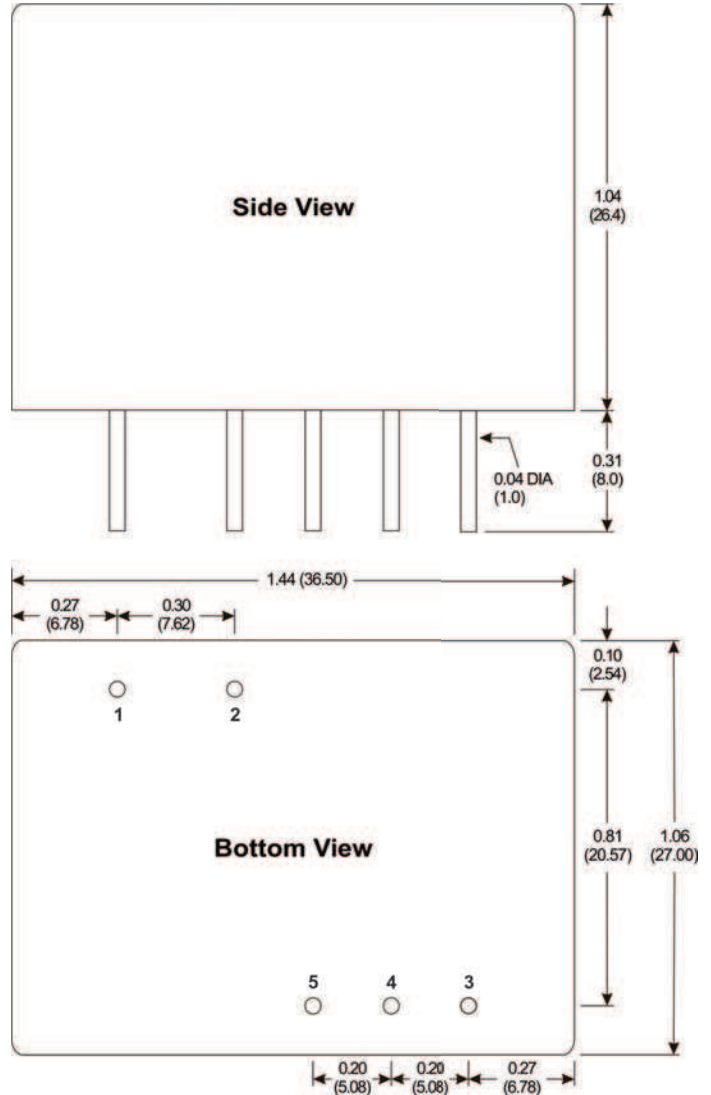
Derating Curve - Single Output Models



Derating Curve - Dual Output Models



Mechanical Dimensions



- Notes:
- All dimensions are typical in inches (mm)
  - Tolerance x.xx = ±0.01 (±0.25)

Pin Connections

Pin	Single	Dual
1	AC-Line	
2	AC-Neutral	
3	-Vout	Common
4	+Vout	Vout1
5	NC	Vout2

NC = No Connection



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