

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 _{IN} = 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 _o |

| 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 | | | |
| | | | 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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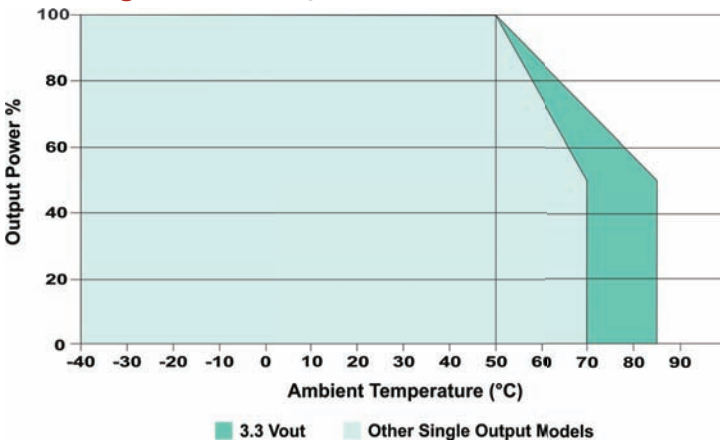
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| Model Number | Input | | Output | | | Load Regulation (% Max) | Maximum Capacitive Load (μF) | Maximum Output Power (W) | Efficiency (% Typ) |
|----------------|-------------|---------|---------------|----------|----------|-------------------------|------------------------------|--------------------------|--------------------|
| | 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 | | | |

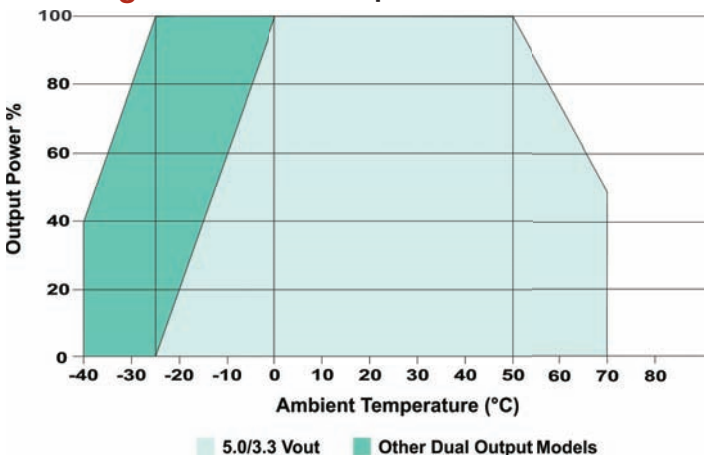
Notes:

- The output voltage accuracy of the V₂ 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 V₁ output (pin 4), and ±3% for the V₂ 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.

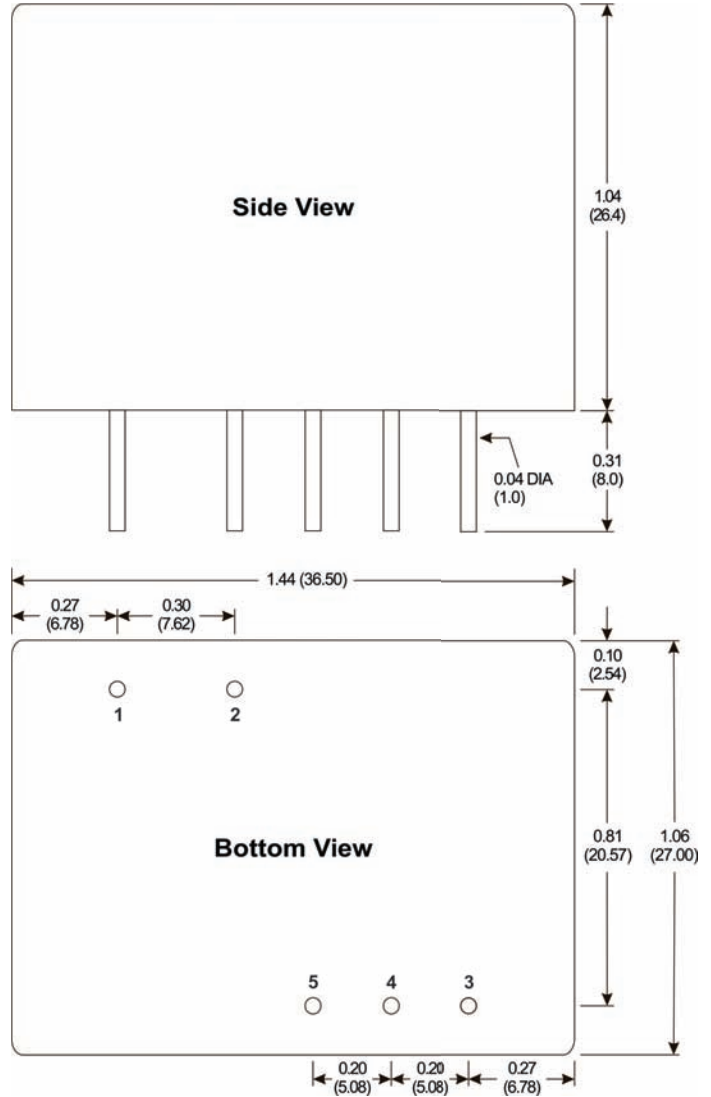
Derating Curve - Single Output Models



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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