

# MPM-05S Series

## Universal Input, 5W Miniature PC Mount AC/DC Power Supplies



### Key Features:

- 5W Output Power
- Universal 85-264 VAC Input
- EN 60950 Approved (UL)
- Five Single Output Models
- Meets EN 55022 B
- >200 kHour MTBF
- Compact PC Mount Case



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### 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		85		264	VAC
		120		370	VDC
Input Frequency		47		63	Hz
Input Current	See Model Selection Guide				
Inrush Current	115 VAC		10.0		A Pk
	230 VAC		20.0		
EMI	Meets CISPR Pub. 22/FCC Class B				
Safety Ground Leakage Current	115 VAC			0.1	mA
	230 VAC			0.3	

#### Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage	See Model Selection Guide				
Output Current	See Model Selection Guide				
Output Voltage Accuracy			±2.0		%
Line Regulation			±0.5		%
Load Regulation	See Model Selection Guide				
Ripple & Noise (20 MHz)			50		mV Pk - Pk
Hold-Up Time	115 VAC		20		mSec
	230 VAC		80		
Temperature Coefficient			±0.02		%/°C
Short Circuit Protection	Continuous (Autorecovery)				
Overload Protection	Typ. 110% of Output Power				

#### General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	Input to Output	3,000			VAC
	Input to Ground	1,500			
	Output to Ground	500			
EMI/RFI	Conducted	EN 55022 Level B			
	Electrostatic Discharge (ESD)	EN 61000-4-2 Level 3			
	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			
		EN 61000-4-5 Level 3 1kV/2 kV			
Switching Frequency			150		kHz

#### Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-20	+25	+70	°C
	Case			+90	°C
Storage Temperature Range		-25		+105	°C
Cooling	Free Air Convection (See Derating Curve)				
Humidity	RH, Non-condensing			85	%

#### Physical

Case Size	1.91 x 1.42 x 0.81 Inches (48.5 x 36.0 x 20.5 mm)				
Case Material	Non-Conductive Black Plastic (UL94-V0)				
Weight	3.77 Oz (107g)				

#### Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	200			kHours
Safety Standards	UL 60950, EN 60950				
Safety Approvals	UL, cUL; File No. E245422				

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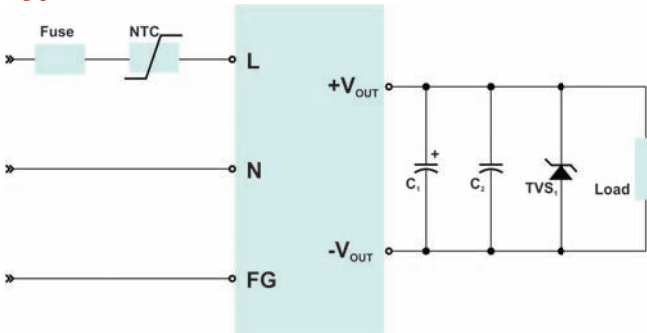
Model Number	Input		Output			Efficiency (% Typ)	
	Current (A)		Voltage (VDC)	Current (A)			Over Volt. Protection (VDC)
	115 VAC	230 VAC		Rated	Load Reg.		
MPM-05S-03	0.12	0.07	3.3	1.00	±1.0%	6.5	76
MPM-05S-05	0.12	0.07	5.0	1.00	±1.0%	6.5	76
MPM-05S-12	0.12	0.07	12.0	0.42	±1.0%	20.0	76
MPM-05S-15	0.12	0.07	15.0	0.33	±1.0%	20.0	76
MPM-05S-24	0.12	0.07	24.0	0.23	±1.0%	30.0	76

Dual & Triple Output Models Are Available.  
For more information, contact the factory:  
sales@micropowerdirect.com

**Notes:**

1. Load regulation is measured for an output change of 10% to 90% at nominal input line. For multiple output models, the loads are balanced.
2. The **MPM-05** series is specified for operation over the wide operating temperature range of -20°C to +55°C without derating. For operation over +55°C, derate the power linearly by 3.75%/°C from +55°C to +70°C.
3. It is recommended that a fuse be used on the input of a power supply for protection. For the **MPM-05** series, a 1A/250 VAC slow blow should be used.

**Typical Connection**



**Typical Component Values**

Vout	C1	C2	Fuse	TVS
3.3	330 ~ 1,000 µF/16V	0.1 µF/50V Ceramic	1A/ 250 VAC Slow Blow	P6KE6.8A
5.0	330 ~ 1,000 µF/16V			P6KE6.8A
12.0	220 µF/25V			P6KE16A
15.0	220 µF/25V			P6KE20A
24.0	120 µF/35V			P6KE33A

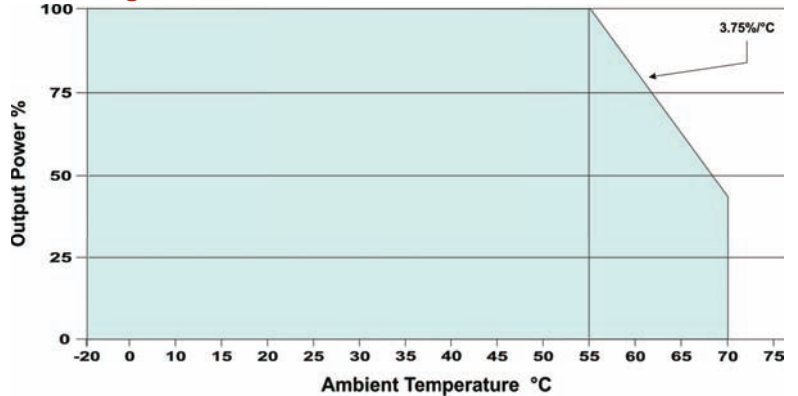
**Notes:**

1. C1 is a high frequency, low resistance electrolytic capacitor. Refer to the suppliers specifications for capacitance/current ratings.
2. Voltage derating on all capacitors should be 80% or higher.
3. C2 reduces high frequency noise.
4. The TVS is recommended to protect load circuitry in the event of a module failure.

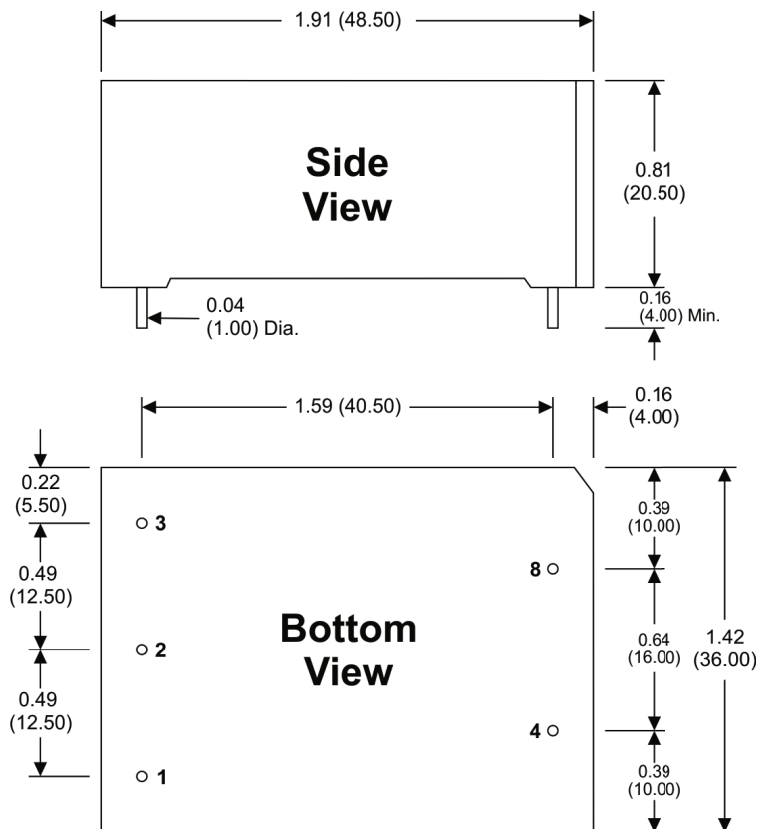
**Pin Connections**

Pin	Function
1	AC-Ground
2	AC-Neutral
3	AC-Line
4	-Vout
8	+Vout

**Derating Curve**



**Mechanical Dimensions**



**Notes:**

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



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