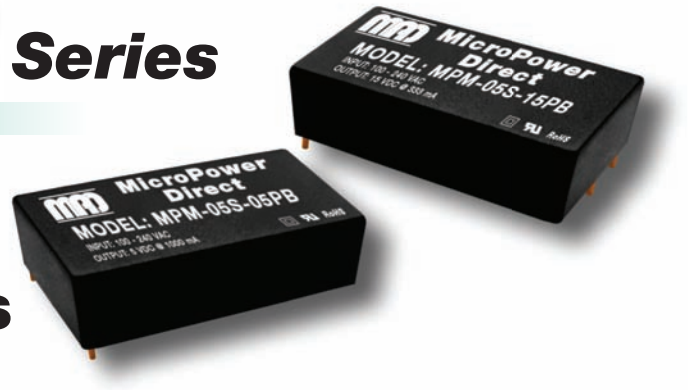
MPM-05PB Series

Very Low Cost, 5W Compact "Power Brick" AC/DC Power Supplies



Key Features:

- 5W Output Power
- Compact 1 x 2 Inch Case
- Universal 85-264 VAC Input
- EN 60950 Approved (UL)
- Meets IEC Safety Class II
- Industry Standard Pin-Out
- Meets EN 55022
- >200 kHour MTBF
- ***Low, Low Cost***

Another Cost Cutter Product From MPD

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Stoughton, MA 02072
USA

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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
		110		370	VDC
Input Frequency		47		440	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 A				

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	V_{IN} = Min to Max		±0.5		%
Load Regulation	See Note 2		±1.0		%
Ripple & Noise (20 MHz)			30		mV P-P
Hold-Up Time	230 VAC, 60 Hz		50		mSec
Temperature Coefficient			±0.02		%/°C
Over temperature Protection				150	°C
Over Voltage Protection, See Note 3	See Model Selection Guide				
Short Circuit Protection	Continuous (Autorecovery)				

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	Input to Output, Flash Tested For 60S	4,000			VAC
Isolation Resistance	500 VDC	100			MΩ
EMI/RFI	Conducted	EN 55022 Level A			
EMC Compliance	Electrostatic Discharge (ESD)	EN 61000-4-2 Level 4 8kV/15 kV			
	RF Field Susceptibility	EN 61000-4-3			
	Electrical Fast Transients/Bursts On Mains	EN 61000-4-4 Level 4 4 kV			
	Surge	EN 61000-4-5 Level 4 2kV/2 kV			
Switching Frequency			100		kHz

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-25	+25	+70	°C
Operating Temperature Range	Case			+95	°C
Storage Temperature Range		-40		+105	°C
Cooling	Free Air Convection (See Derating Curve)				
Humidity	RH, Non-condensing			95	%

Physical

Case Size	2.00 x 1.00 x 0.60 Inches (50.8 x 25.4 x 15.16 mm)
Case Material	Non-Conductive Black Plastic (UL94-V0)
Weight	1.22 Oz (35g)

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				
Safety Class	IEC 61140 Class II				

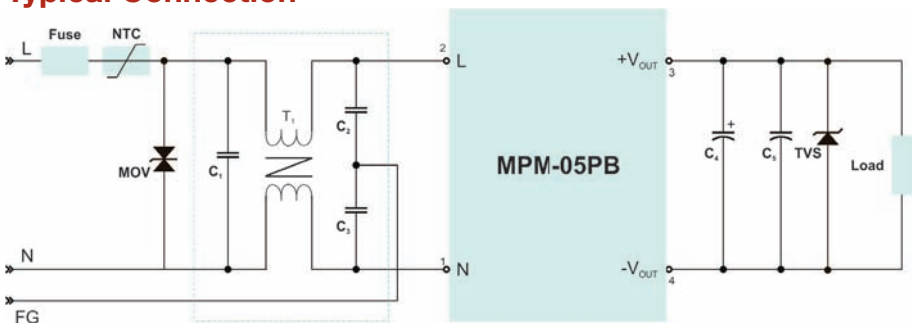
Model Selection Guide

Model Number	Input Current (A)		Output Voltage (VDC)	Output Current (A)		Over Voltage Protection (VDC)	Efficiency (%, Typ)
	115 VAC	230 VAC		Max.	Peak (60 Sec)		
MPM-05S-03PB	0.110	0.070	3.3	1.250	1.400	≤6.5	66
MPM-05S-05PB	0.110	0.070	5.0	1.000	1.300	≤6.5	72
MPM-05S-09PB	0.110	0.070	9.0	0.550	0.700	≤12.0	74
MPM-05S-12PB	0.110	0.070	12.0	0.420	0.550	≤20.0	76
MPM-05S-15PB	0.110	0.070	15.0	0.333	0.450	≤20.0	76
MPM-05S-24PB	0.110	0.070	24.0	0.230	0.300	≤30.0	78

Notes:
1. For the 3.3V output model, Output Accuracy is ±3.0%
2. Load regulation is measured for an output change of 10% to 100% at nominal input line.
3. Over voltage protection is provided by a diode clamp & chip lock up.
4. It is recommended that a fuse be used on the input of a power supply for protection. For the **MPM-05PB** series, a 1A/250 VAC slow blow should be used.

Typical Connection

The diagram below illustrates a typical application connection of the **MPM-05PB** series. Notes on this circuit (starting with the input circuit) are:



1. It is recommended that an external fuse, NTC and MOV be added to the input to the unit. For the fuse, a 1A/250V slow blow is recommended. For the NTC, a 5D-9 may be used. added to the input. To protect the unit in the event of a surge. A 471KD05 or equivalent MOV is recommended.
2. For EMI sensitive applications, the input filtering circuit (inside the dotted boxes) may be added. The filter consists of a common mode choke and x/y caps:

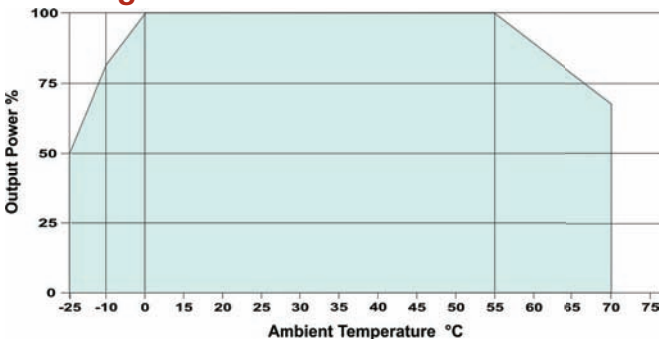
C_1	C_2/C_3	T_1
0.1 μF/275V	220 pF/400V	10 - 30 mH

3. Recommended output filtering capacitors are:

	C_4	C_5	TVS
MPM-05S-03PB	47 μF/10V	0.1 μF/50V	P6KE6.8A
MPM-05S-05PB	47 μF/10V	0.1 μF/50V	P6KE6.8A
MPM-05S-09PB	33 μF/25V	0.1 μF/50V	P6KE12A
MPM-05S-12PB	33 μF/25V	0.1 μF/50V	P6KE20A
MPM-05S-15PB	33 μF/25V	0.1 μF/50V	P6KE20A
MPM-05S-24PB	10 μF/35V	0.1 μF/50V	P6KE30A

The output filtering capacitor (C_4) is a high frequency, low resistance electrolytic capacitor. Capacitor (C_5) is ceramic. Voltage derating of capacitors should be 80% or above. The TVS is added to protect circuitry being powered.

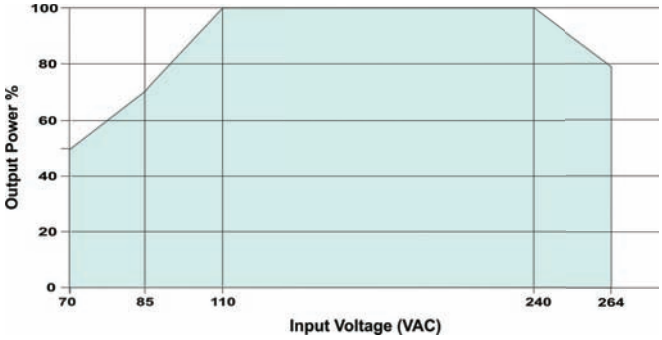
Derating Curve



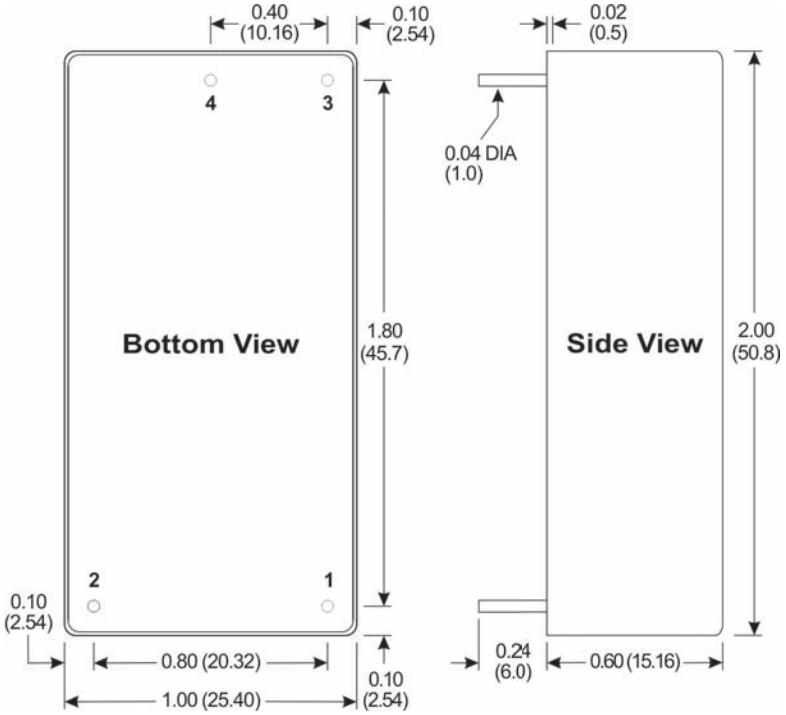
Pin Connections

Pin	Function	Pin	Function
1	AC-Neutral	3	+Vo
2	AC-Line	4	-Vo

Input Voltage Vs Load



Mechanical Dimensions



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

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