

# MPB-10S Series

## Miniature PCB-Mount, 10W, Open Frame AC/DC Power Supplies



### Key Features:

- 10W Output Power
- Universal 85-264 AC Input
- EN 60950 Approved (UL)
- PCB Mountable
- Meets IEC Safety Class II
- Meets EN 55022 B
- High Efficiency
- >200 kHour MTBF



MicroPower Direct



### Electrical Specifications

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

#### Input

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Range	Universal	85		264	VAC
		127		373	VDC
Input Frequency		47		63	Hz
Input Filter	Meets EN 55022 Class B				
Input Current	See Model Selection Guide				
Inrush Current	Cold Start, 115 VAC			20.0	A Pk
	Cold Start, 230 VAC			40.0	
Safety Ground Leakage Current	264 VAC			0.25	mA

#### Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage/Current	See Model Selection Guide				
Output Voltage Tolerance	See Note 1		±1.0		%
Line Regulation	Vin = 100 VAC to 240 VAC		±0.5		%
Load Regulation	Iout = 10% to 100%		±1.0		%
Ripple & Noise (20 MHz)	See Note 2		±1.0		%
Hold-Up Time	115 VAC		16		mSec
	230 VAC		60		
Temperature Coefficient			±0.05		%/°C
Short Circuit Protection	Hiccup Mode (Autorecovery)				

#### General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	Input to Output	3,000			VAC
Isolation Resistance	500 VDC		100		MΩ
Isolation Capacitance			2,200		pF
EMC Compliance	Conducted	EN 55022; EN 61000-3-2, -3			
	Electrostatic Discharge (ESD)	IEC/EN 61000-4-2, -6, -8, -11			
	RF Field Susceptibility	IEC/EN 61000-4-3			
	Electrical Fast Transients/Bursts On Mains	IEC/EN 61000-4-4			
	Surge	IEC/EN 61000-4-5			
Switching Frequency	Fixed		100		kHz

#### Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	0	+25	+70	°C
Storage Temperature Range		-20		+85	°C
Cooling	Free Air Convection (See Derating Curve)				
Humidity	RH, Non-condensing			93	%

#### Physical

Size	2.559 x 1.772 x 0.906 Inches (65.0 x 45.0 x 23.0 mm)				
Weight	2.12 Oz (0.060 kg)				

#### Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	200			kHours
Safety Standards	UL 60950, EN 60950				
Vibration	Sinusoidal 50~500 Hz, 3.0 Grms, Period of 10 min each along X, Y & Z Axis				

# Model Selection Guide

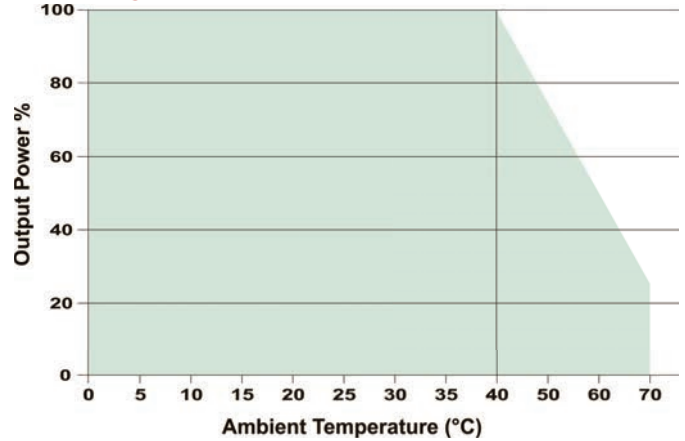
Model Number	Input		Voltage (VDC)	Output		Max Output Power (W)	Efficiency (% Typ)
	Current (A)			Current (A)			
	115 VAC	230 VAC	Rated	% Min.			
MPB-10S-03	0.50	0.25	3.3	2.50	0.00	8.25	67
MPB-10S-05	0.50	0.25	5.0	2.00	0.00	10.0	73
MPB-10S-09	0.50	0.25	9.0	1.12	0.00	10.0	72
MPB-10S-12	0.50	0.25	12.0	0.84	0.00	10.0	76
MPB-10S-15	0.50	0.25	15.0	0.67	0.00	10.0	76
MPB-10S-24	0.50	0.25	24.0	0.42	0.00	10.0	77

Other Models May Be Available. Contact The Factory For Details

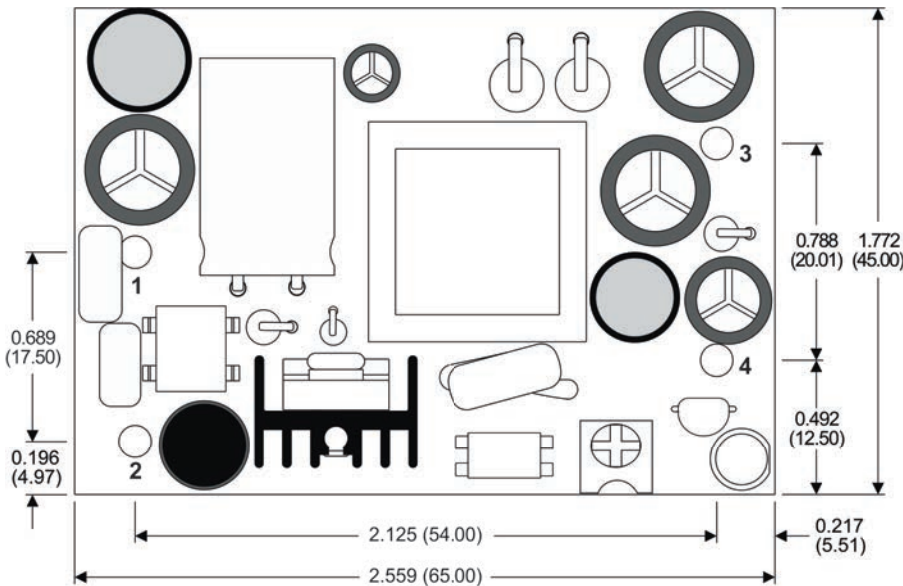
**Notes:**

- Output voltage tolerance is measured at nominal input and 75% load.
- For the **MPB-10S-03**, output ripple is  $\pm 50$  mV typ. Output ripple is measured at 20 MHz bandwidth using 0.1  $\mu$ F and 10  $\mu$ F capacitors connected in parallel as close to the power supply terminals as possible.
- These units will operate at no load without damage. For most applications however, **MPD** recommends that a minimum load always be used. Contact the factory for more information.
- Each unit includes an input fuse (250V/1A). Since this fuse is not field replaceable, it is recommended that an external fuse of the same size be used on the input of the power supply for protection.

## Derating Curve

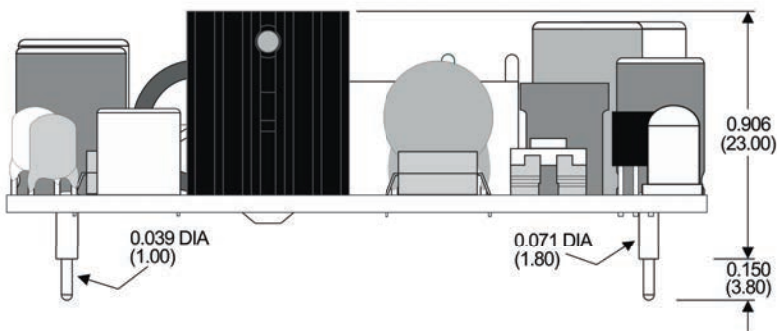


## Mechanical Dimensions



## Pin Connections

Pin	Description
1	AC-Neutral
2	AC-Line
3	-V Output
4	+V Output



**Notes:**

- All dimensions are typical in inches (mm)
- Tolerance x.xx =  $\pm 0.02$  ( $\pm 0.50$ )



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