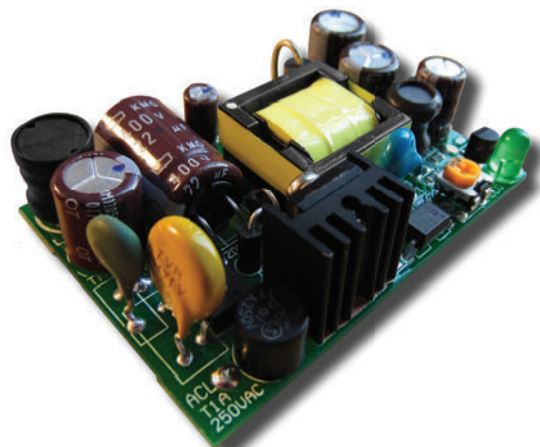


# MPB-10S Series

## 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

292 Page Street  
Suite D  
Stoughton, MA 02072  
USA

T: (781) 344-8226  
F: (781) 344-8481  
E: sales@micropowereirect.com  
W: www.micropowereirect.com



### 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    |
| EMI/RFI               | Conducted                                  | EN 55022; EN 61000-3-2, -3    |       |      |       |
| EMC Compliance        | 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  | +40  | °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 |      |      |      |        |

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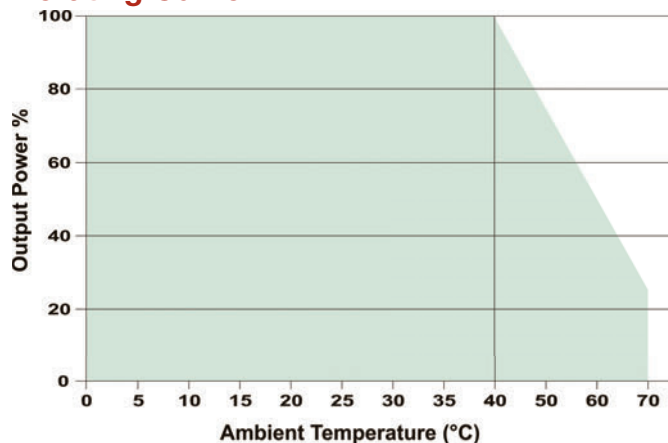
| Model Number | Input       |         | Output        |             |        | Max Output Power (W) | Efficiency (% Typ) |
|--------------|-------------|---------|---------------|-------------|--------|----------------------|--------------------|
|              | Current (A) |         | Voltage (VDC) | 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

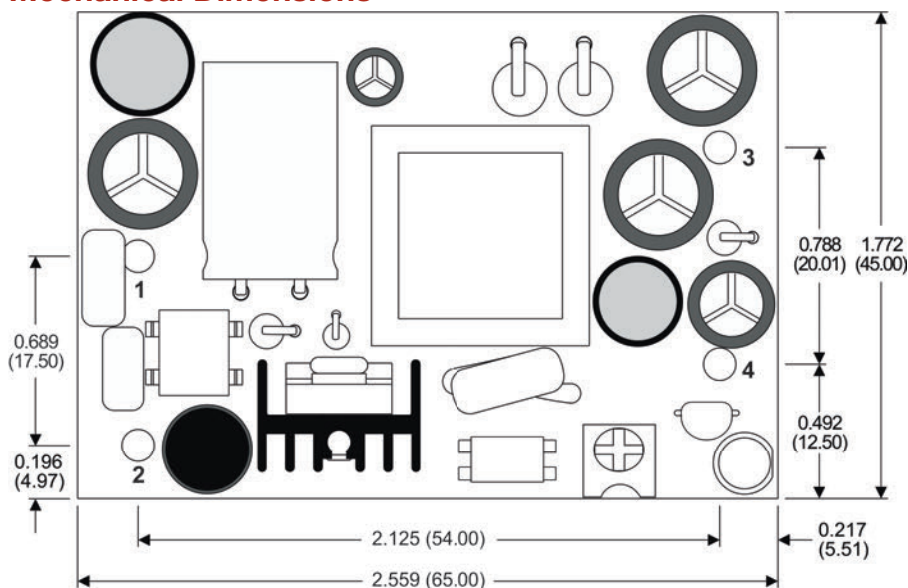
#### Notes:

- 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

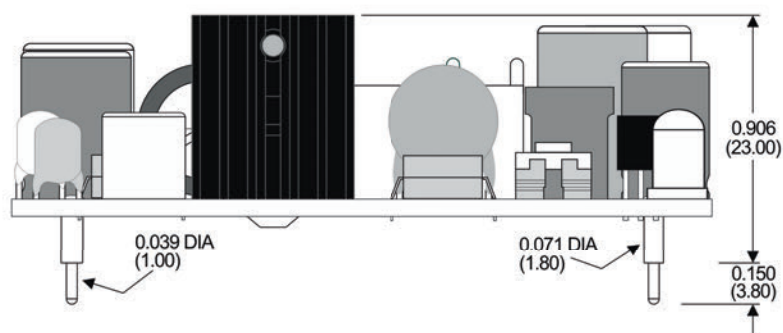


#### Mechanical Dimensions



#### 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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