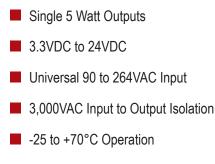


PowerBlock Micro-Miniature Modular Switching Power Supplies

PWB series



2"L x 1"W x 0.6"H



High Efficiency

| | | | | c 🅦 us 🛛 👜 | CB (€ |
|--------------|----------------|-------------|--------------|---------------|------------------------------|
| Model Number | Output Voltage | Output Amps | Output Watts | Size (inches) | Fully Approved |
| PWB-5000 | 3.3 VDC | 1.25 | 4W | 1 x 2 x 0.6 | IEC60950 EN60950 |
| PWB-5001 | 5 VDC | 1 | 5W | 1 x 2 x 0.6 | UL60950-1 CSA22.2-60950-1 |
| PWB-5002 | 12 VDC | 0.42 | 5W | 1 x 2 x 0.6 | CSA22.2-00950-1 |
| PWB-5003 | 15 VDC | 0.33 | 5W | 1 x 2 x 0.6 | |
| PWB-5005 | 24 VDC | 0.23 | 5W | 1 x 2 x 0.6 | |



PowerBlock Micro-Miniature Modular Switching Power Supplies

INPUT SPECIFICATIONS

| Input Voltage, Nominal | 90-264VAC | |
|------------------------|------------------------|--|
| | Nominal: 100-240VAC | |
| Input Frequency | 47-63 Hz, 50-60Hz Nom. | |
| Inrush Current | 20A @ 100VAC, typ | |
| | 40A @ 200VAC, typ | |

OUTPUT SPECIFICATIONS

| Output Voltage/Current | See Specific Model | |
|--------------------------|------------------------------|--|
| Initial Accuracy | +/-1%, typ | |
| Load Regulation | 3.3V & 5V:+/-1%, typ | |
| 20%-FL | 12V, 15V, & 24V:+/-0.5%, typ | |
| Line Regulation | 3.3V & 5V:+/-1%, typ | |
| | 12V, 15V, & 24V:+/-0.5%, typ | |
| Temperature Coefficient | +/-0.03%/°C | |
| Ripple/Noise(20Mhz BW) | 200-250mV Pk-Pk, typ | |
| Overvoltage Protection | Clamp, 130-150% * | |
| Hold Up Time | 30mS, typ | |
| Short Circuit Protection | Continuous * | |
| OverTemp Protection | Latching, Recovering | |
| Current Limit | 130% typ,Self-Reset Foldback | |
| | | |

GENERAL SPECIFICATIONS

| Input-Out Isolation | 3000VAC |
|--------------------------|----------------------------------|
| Output-Ground Isolation | 1000VAC |
| Input-Ground Isolation | 2500VAC |
| Operating Frequency | 100 Khz, fixed, typ |
| Efficiency (@ Full Load) | 75 - 80%, typ |
| Safety | EN60950, TUV File# B050122749064 |
| | IEC60950, CB File# DE 3-51024 |
| | UL60950-1, UL File# E167432 |

PWB series

ENVIRONMENTAL SPECIFICATIONS

| Oper. Temperature | -25 to +50°C FL |
|---------------------|-----------------------------------|
| | Derate Linearly to 25%L @ 70°C |
| Relative Humidity | 0-95%, Non-Condensing |
| Storage Temperature | -25 to +71°C * |
| MTBF | 466,553 Hrs |
| | MIL-HDBK 217, Parts Count Method, |
| | 25°C, Ground Benign |

PHYSICAL SPECIFICATIONS

| Case Material | Rynite, 94V-0 Rated |
|---------------|------------------------|
| Construction | Encapsulated, Soft Pot |
| Weight | 1.5 oz (42g) |

All specifications are typical at nominal input, full load, and 25DegC unless otherwise noted

* These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long term reliability. Proper operation under conditions other than the standard operating conditions is neither warranteed nor implied.

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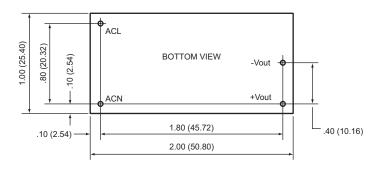
Astrodyne products are not authorized or warranteed for use as critical components in life support systems, equipment used in hazardous environments, nuclear controls systems, or other mission-critical applications.

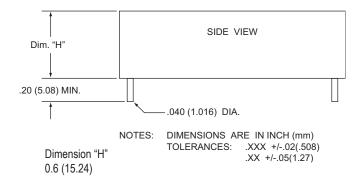


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PWB series

MECHANICAL SPECIFICATIONS

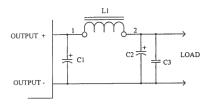




POWER BLOCK APPLICATION NOTES

Output Noise

The figure below ia a sample diagram to reduce Output Ripple and Noise.



C1 = Electrolytic Capacitor Capacitance = 22uF - 220uF Voltage = Two times rated output voltage

L1 = 3uH - 10uH

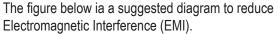
- C2 = Electrolytic Capacitor Capacitance = 22uF - 47uF Voltage = Two times rated output voltage
- C3 = Ceramic Capacitor Capacitance = 0.01uF - 0.1uF Voltage = 50 volt

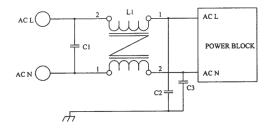
Notes:

- 1. The use of C1 alone may reduce noise to desired levels, if not use L1, C2 and C3 in addition to C1.
- 2. The figure above is a suggested circuit. Only by trying true application can levels be tested.

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EMI





C1 = 0.22uF X Capacitor

L1 = 10mH - 30mH Common Mode, Choke

C2, C3 = 220pF Y Capacitors

Notes:

The diagram above is a recommended circuit, only by trying true application can levels be measured.

Inrush Current

If desired, the use of a Choke, NTC or Inrush Current Limiter may be used to reduce the Inrush Current