



35852-PS

MSMP250 Series 250 Watt Medical Open Frame Power Supply



- High Efficiency: Level V
- Wide Range AC Input
- Power Factor Correction
- +5V Standby & Fan Power
- Fully Regulated DC Output
- EISA and CEC Compliant
- Floating Output
- ITE and Medical Grade Approval

| Elpac Part Number | Output Voltage | Output Current ¹ | Forced Air Current ² | +5V Standby Output Current ³ | Adjustable Fan Output Current ⁴ | Typical Efficiency ⁵ |
|-------------------|----------------|-----------------------------|---------------------------------|---|--|---------------------------------|
| MSMP25036D | 36.0V | 7.0A | 9.8A | 1.0A | 0.35A | 88% |

Notes

1 With convection cooling. Peak load (350W) lasting up to 500ms with a maximum 10% duty cycle.

2 Sustained output current with minimum 100 LFM. (~40CFM)

3 Output present when ever AC input is applied

4 Output self adjusting dependant on ambient temperature. Range of 5 to 13V over 25°C to 50°C ambient.

5 Typical at 115VAC.

Input

| | |
|-----------------------------|--|
| Input Voltage | 85 - 264VAC 100 - 240VAC Nominal |
| Input Frequency | 47 - 63Hz |
| Input Current | <5A rms |
| Inrush Current | <37A at 230VAC cold start |
| Power Factor | >0.98 |
| Zero Load Power Consumption | 0.75W |
| Touch Leakage Current | <200µA @ 132VAC @ 60Hz <300µA @ 264VAC @ 60Hz |

Output

| | |
|-----------------------------|--|
| Output Voltage | See Table |
| Total Regulation | +/-5% |
| Minimum Load | No minimum load required |
| Start-Up Delay | <1s |
| Hold-Up Time | >24ms at any input voltage |
| Ripple & Noise | <1% pk-pk ** * |
| Over Voltage Protection | 110-135% |
| Over Temperature Protection | Active - Recoverable; plus Passive - Non Recoverable |
| Over Current Protection | 120 - 180% |
| Short Circuit Protection | shutdown, auto-restart (hiccup mode) |

Notes

* Ripple and noise measured with 20MHz bandwidth; 10µF tantalum capacitor in parallel with a 0.1µF ceramic capacitor.


General

| | |
|------------|--|
| Efficiency | Avg Efficiency 88.5% @ 115VAC; 90.6% @ 230VAC |
| MTBF | min. 200,000 hours demonstrated |
| Size | 8.00" (203.2mm) x 5.00" (127mm) x 1.50" (38.1mm) |
| Weight | 2.1 lbs (0.95 kg) |

Environmental

| | |
|-----------------------|---|
| Operating Temperature | 0 – 70°C (Full load to 50°C, derate linearly to 50% load at 70°C) |
| Storage Temperature | -40°C to +85°C |
| Relative Humidity | 5-95%, non-condensing |
| Cooling | Natural Convection (250W) or Forced Air (350W) |
| Vibration | All units production tested to 19.6m/s ² |

EMC & Safety

| | |
|---|--|
| Emissions | FCC class B, CISPR11 class B EN61000-3-2, -3 |
| Immunity | EN61000-4-2, -3, -4, -5, -6, -8, -11 |
| Certified by TUV to the following: | cTUVus |
|  | UL 60601-1 |
| | CAN/CSA-22.2 No.601.1-M90 |
| | CB per IEC60601-1 |
| | CE marked to LVD |

Input Configuration (H1)

| | |
|---------------------------------|--|
| Connection on Power Supply Body | JITE p/n BTB555-10-03 Barrier Strip, M3 screws |
| Pin 1 | AC Line |
| Pin 2 | AC Neutral |
| Pin 3 | Ground |

Output Configuration (H4)

| | |
|----------------------|--|
| Connector (PSU side) | JITE p/n BTB555-10-04 Barrier Strip, M3 screws |
| Pin 1 | +V1 |
| Pin 2 | +V1 |
| Pin 3 | Return |
| Pin 4 | Return |

Signal Configuration (H2)

| | | |
|------------------|---|--|
| Connector | AMP P/N 640456-8 or equivalent | |
| Mating Connector | AMP p/n 640440-8 or equivalent | |
| Pin 1 | DC-Good | TTL high when DC is within regulation |
| Pin 2 | AC-Fail | TTL high when AC is present; min. 8ms warning before loss of AC output |
| Pin 3 | Remote On/Off | Connect to Pin 7 (Pin 4) to enable power supply |
| Pin 4 | + Sense | Must be connected to output, either at H4 connector, or at point of load. |
| Pin 5 | - Sense | Must be connected to output, either at H4 connector, or at point of load. Must compensate for up to 500mV cable drop. |
| Pin 6 | no connection | |
| Pin 7 | Return for Remote on/off and +5V Standby | |
| Pin 8 | Return to Pin 7 for +5V @ 1.0A Standby output | |

Fan Configuration (H3)

| | | |
|------------------|--------------------------------|---|
| Connector | AMP P/N 640456-8 or equivalent | |
| Mating Connector | AMP p/n 640440-8 or equivalent | |
| Pin 1 | +V | Fan output will adjust from +5V to +12V depending on ambient temperature. |
| Pin 2 | -V | |

