

## A-CUBE-PSU

### Features

- Universal AC input / full range
- 3 pole AC inlet IEC320-C14, class I power unit
- No load power consumption <0.3 W
- Energy efficiency level VI
- Comply with EISA 200//DoE
- Protections: Short circuit / overload / over voltage
- Fully enclosed plastic case
- -20 ~ +70 °C working temperature
- LED indicator for power on
- Dual output available (optional)



### Specification

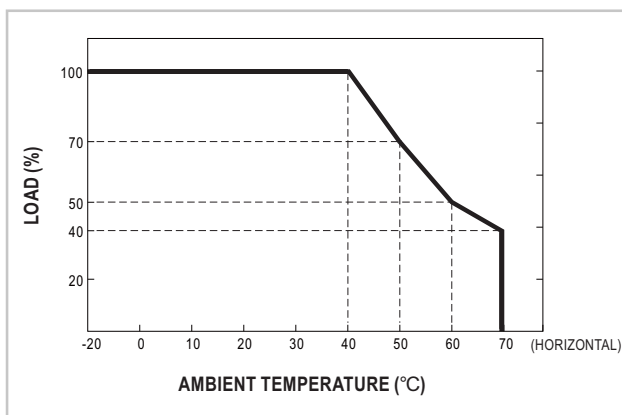
| Order no.                    | A-CUBE-PSU  |               |             |
|------------------------------|---|---------------|-------------|
| Safety model no.             | GP25A13D  |               |             |
| Dc voltage note.2            | 5 V   | 12 V          | -12 V       |
| Rated set current            | 2.5 A   | 1 A           | 0.3 A       |
| Current range                | 0.5 ~ 2.5 A   | 0.2 ~ 1 A     | 0.1 ~ 0.3 A |
| Rated power                  | 28 W  |               |             |
| Output                       |   |               |             |
| Ripple & noise (max.) note.3 | 60 mVpp   | 120 mVpp      | 50 mVpp     |
| Voltage tolerance note.4     | ±5.0%   | -5.0% ~ +5.0% | ±3.0%       |
| Line regulation note.5       | ±1.0%   | ±1.0%         | ±1.0%       |
| Load regulation note.6       | ±5.0%   | ±5.0%         | ±3.0%       |
| Setup, rise, hold up time    | 800 ms, 50 ms, 20 ms / 30 VAC<br>1200 ms, 50 ms, 16 ms / 115 VAC at full load |               |             |
| Input                        |   |               |             |
| Voltage range note.7         | 90 ~ 264 VAC 135 ~ 370 VDC  |               |             |
| Frequency range              | 47 ~ 63 Hz  |               |             |
| Efficiency (typ.)            | 80%   |               |             |
| AC current                   | 0.8 A / 100 VAC 0.4 A / 230 VAC   |               |             |
| Inrush current (max.)        | cold start 30 A / 115 VAC 60 A / 230 VAC                                      |               |             |
| Leakage current (max.)       | 0.75 mA / 240 VAC   |               |             |

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| Protection                 | Overload                | 110 ~ 160% rated output power<br>Protection type: Hiccup mode, recovers automatically after fault condition is removed |  |  |
|                            | Over voltage            | 110 ~ 140% rated output voltage<br>Protection type: clamp by zener diode (5 V only), output short                      |  |  |
| Environment                | Working temp.           | -20 ~ +70°C (Refer to "Derating curve")  |  |  |
|                            | Working humidity        | 20% ~ 90% RH non-condensing  |  |  |
|                            | Storage temp., humidity | -20 ~ +85°C, 10 ~ 95% RH non-condensing  |  |  |
|                            | Temp. coefficient       | ±0.03% / °C (-20 ~ 40°C)   |  |  |
|                            | Vibration               | 10 ~ 500 Hz, 2 G 10 min./1cycle, period for 60 min. each along X, Y, Z axes  |  |  |
| Safety & EMC (Note. 8)     | Safety standards        | IEC60950-1, UL60950-1, CSA22.2, EN60950-1 approved   |  |  |
|                            | Withstand voltage       | I/P-O/P:4242VDC , I/P-FG:2121VDC   |  |  |
|                            | Isolation resistance    | I/P-O/P,I/P-FG:100 M Ohms / 500 VDC / 25°C/ 70% RH   |  |  |
|                            | EMC emission            | <b>Parameter</b>   | <b>Standard</b>  | <b>Test Level / Note</b>                 |
|                            |                         | Conducted emission   | EN55032 (CISPR32), FCC PART 15/ CISPR22, CAN ICES-3(B)/NMB-3(B)          | Class B                                  |
|                            |                         | Radiated emission  | EN55032 (CISPR32), FCC PART 15/ CISPR22, CAN ICES-3(B)/NMB-3(B)          | Class B                                  |
|                            |                         | Harmonic current   | EN61000-3-2  | Class A                                  |
|                            |                         | Voltage flicker  | EN61000-3-3  | —  |
|                            | Emc immunity            | <b>Parameter</b>   | <b>Standard</b>  | <b>Test Level / Note</b>                 |
|                            |                         | ESD  | EN61000-4-2  | Level 3, 8 KV air; Level 2, 4 KV contact |
| RF field susceptibility    |                         | EN61000-4-3  | Level 2, 3 V/m   |  |
| EFT bursts                 |                         | EN61000-4-4  | Level 2, 1 KV  |  |
| Surge susceptibility       |                         | EN61000-4-5  | Level 3, 1 KV/L-N, 2 KV/L, N-PE  |  |
| Conducted susceptibility   |                         | EN61000-4-6  | Level 2, 3 V   |  |
| Voltage dips, interruption |                         | EN61000-4-11   | >95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods |  |

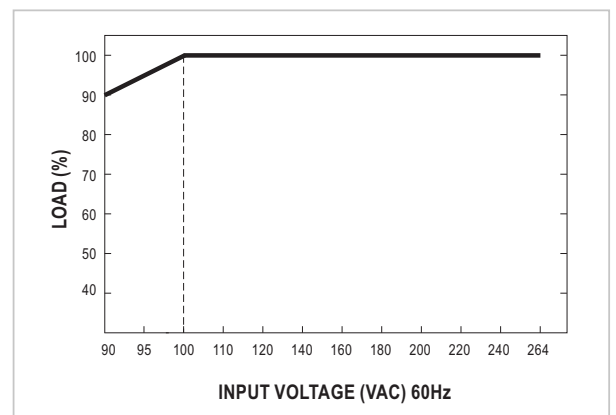
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|-----------|------------|--|
| Others    | Life       | 3 years : 100% load 40°C, 8 hours /day |
|           | MTBF       | 620 K hrs min. MIL-HDBK-217F (25°C)    |
|           | Dimension  | 107.5*67*36 mm (L*W*H)                 |
|           | Packing    | 0.3 kg ; 54 pcs/ 20 kg / carton        |
| Connector | Plug       | see page 4                             |
|           | Cable      | see page 4                             |

- Note
1. All parameters are specified at 230 VAC input, rated load, 25°C 70% RH ambient.
  2. DC voltage: the output voltage set at point measure by plug terminal & 50% load.
  3. Ripple & noise are measured at 20 MHz by using a 12" twisted pair terminated with a 0.1µf & 47µf capacitor.
  4. Tolerance: includes set up tolerance, line regulation, load regulation.
  5. Line regulation is measured from low line to high line at rated load.
  6. When measured between the light load (20% of rated load) and full load, the load regulation is within ±5% whereas the cross regulation is within ±15%.
  7. Derating may be needed under low input voltages. Please check the static characteristics for more details.
  8. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies".

### Derating Curve

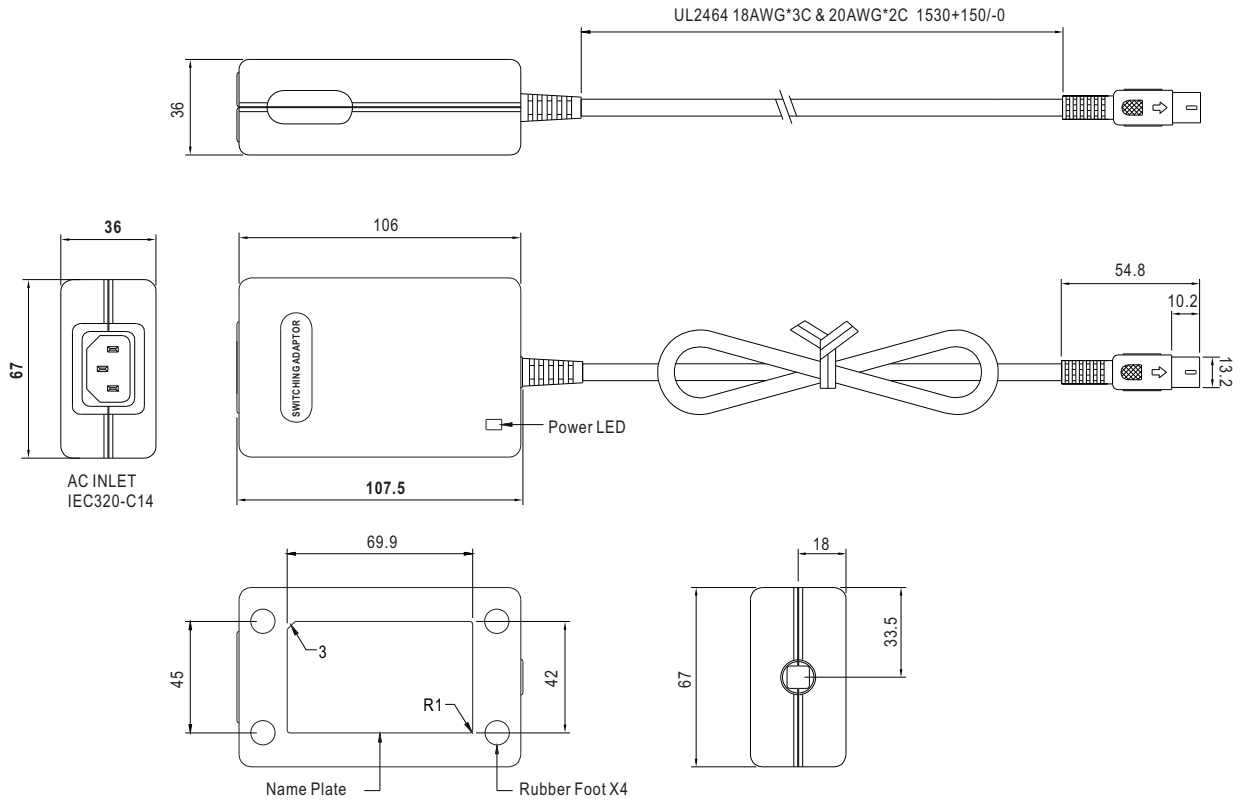


### Static Characteristics



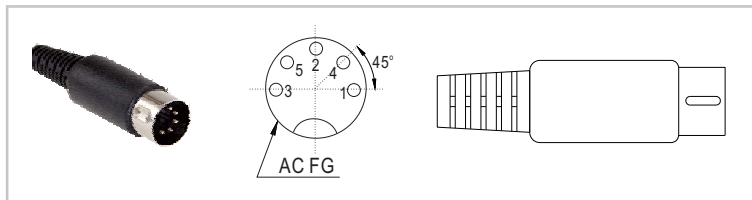
Mechanical Specification

Unit:mm



DC Output Plug

DIN 5 Pin (male)



Standard plug: R1B

| Pin Assignment |        |
|----------------|--------|
| PIN No.        | Output |
| 1              | COM    |
| 2              | COM    |
| 3              | +5 VDC |
| 4              | -Vout  |
| 5              | +Vout  |