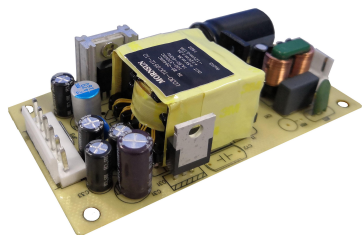


30W, AC-DC converter



FEATURES

- 85 - 264V Universal AC or wide 100 - 373V DC Input
- Triple output, regulated, high output voltage accuracy
- High efficiency up to 78%
- Output short circuit, over-current, over-voltage protection
- Safety Class: CLASS II

LO30-10C0512-12 is one of Mornsun's compact size power converter. The product features universal AC input voltage, at the same time also accepts DC input, high efficiency, high reliability and reinforced insulation. It offers excellent EMC performance, meets IEC62368 safety standard.

Selection Guide

| Part No. | Output Power | Nominal Output Voltage and Current | | | Efficiency at 230VAC (%) Typ. | Capacitive Load (μF) Max. | | |
|-----------------|--------------|------------------------------------|------------|------------|-------------------------------|---------------------------|------|------|
| | | Vo1/Io1 | Vo2/ Io2 | -Vo2/ -Io2 | | Vo1 | Vo2 | -Vo2 |
| LO30-10C0512-12 | 31.2W | 5V/3000mA | 12V/1200mA | -12V/150mA | 78 | 15000 | 1000 | 220 |

Input Specifications

| Item | Operating Conditions | Min. | Typ. | Max. | Unit |
|---------------------------------|----------------------|--------------------|------|------|------|
| Input Voltage Range | AC input | 85 | -- | 264 | VAC |
| | DC Input | 100 | -- | 373 | VDC |
| Input Frequency | | 47 | -- | 63 | Hz |
| Input Current | 115VAC | -- | -- | 0.9 | A |
| | 230VAC | -- | -- | 0.5 | |
| Inrush Current | 115VAC | -- | 30 | -- | |
| | 230VAC | -- | 50 | -- | |
| Recommended External Input Fuse | | 2A/250V, slow-blow | | | |
| Hot Plug | | Unavailable | | | |

Output Specifications

| Item | Operating Conditions | Min. | Typ. | Max. | Unit |
|--------------------------|--------------------------------------|-----------------------------------|------|------|------|
| Output Voltage Accuracy | Vo1 | -- | -- | ±2 | % |
| | Vo2 | -- | -- | ±5 | |
| Line Regulation | Full load | Vo1 | ±0.5 | -- | |
| | | Vo2 | ±1.5 | -- | |
| Load Regulation | 10% - 100% load | Vo1 | ±3 | -- | |
| | | Vo2 | ±5 | -- | |
| Ripple & Noise* | 20MHz bandwidth (peak-to-peak value) | -- | 100 | 200 | mV |
| Short Circuit Protection | 5V output | Hiccup, continuous, self-recovery | | | |
| Over-current Protection | 5V output | ≥110%Io, self-recovery | | | |
| Over-voltage Protection | 5V output | ≤7.5VDC | | | |
| Minimum Load | | 10 | -- | -- | % |
| Hold-up Time | 115VAC input | -- | 5 | -- | ms |
| | 230VAC input | -- | 20 | -- | |

Note: * The "parallel cable" method is used for ripple and noise test, please refer to AC-DC Converter Application Notes for specific information.

General Specifications

| Item | | Operating Conditions | Min. | Typ. | Max. | Unit |
|-----------------------|------------------|---|--------------------------|------|------|--------|
| Isolation | Input-output | Electric Strength Test for 1min., (leakage current <5mA) | 3000 | -- | -- | VAC |
| | Vo1 - Vo2/(-Vo2) | | 500 | -- | -- | VDC |
| Operating Temperature | | | -25 | -- | +70 | °C |
| Storage Temperature | | | -25 | -- | +85 | |
| Storage Humidity | | | -- | -- | 95 | %RH |
| Switching Frequency | | | -- | 65 | -- | kHz |
| Power Derating | -25°C to -10°C | | 2 | -- | -- | % / °C |
| | +55°C to +70°C | | 3.33 | -- | -- | |
| | 85VAC- 100VAC | | 2 | -- | -- | %/VAC |
| Safety Standard | | | UL62368/EN62368/IEC62368 | | | |
| Safety Class | | | CLASS II | | | |
| MTBF | | MIL-HDBK-217F@25°C | ≥ 300,000 h | | | |

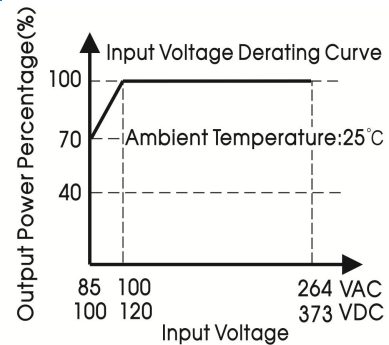
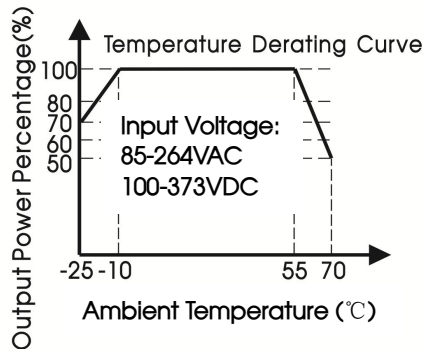
Mechanical Specifications

| | |
|----------------|-------------------------|
| Dimension | 97.00 x 50.00 x 28.00mm |
| Weight | 86g (Typ.) |
| Cooling Method | Free air convection |

Electromagnetic Compatibility (EMC)

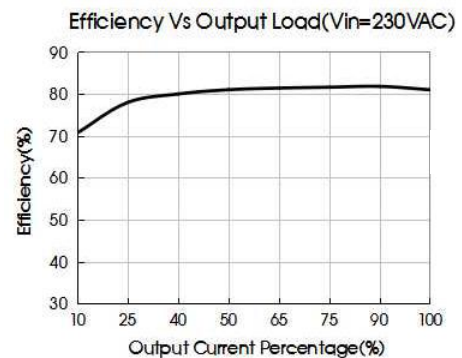
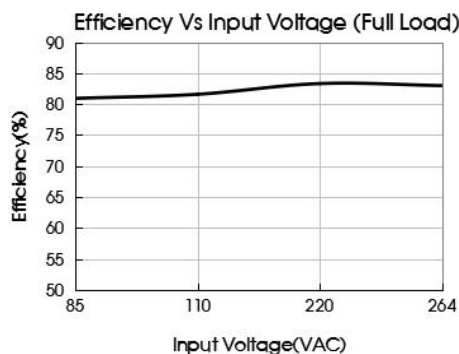
| | | | | |
|-----------|-------|-----------------|-------------------|------------------|
| Emissions | CE | CISPR32/EN55032 | CLASS A | |
| | RE | CISPR32/EN55032 | CLASS A | |
| Immunity | ESD | IEC/EN61000-4-2 | Contact ±4KV | Perf. Criteria B |
| | RS | IEC/EN61000-4-3 | 10V/m | perf. Criteria A |
| | EFT | IEC/EN61000-4-4 | ±2KV | perf. Criteria B |
| | Surge | IEC/EN61000-4-5 | line to line ±1KV | perf. Criteria B |

Product Characteristic Curve



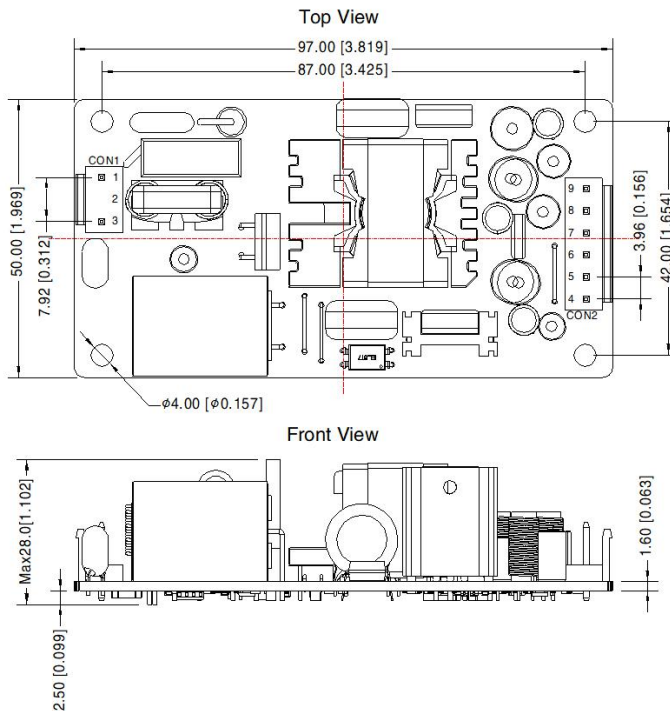
Note: ① With an AC input voltage between 85 - 100VAC and a DC input between 100 - 120VDC the output power must be derated as per the temperature derating curves;

② This product is suitable for applications using natural air cooling; for applications in closed environment please consult Mornsun FAE.



Dimensions and Recommended Layout

THIRD ANGLE PROJECTION 



| Pin-Out | | | |
|---------|----------|--|---|
| Pin | Function | Product Connectors | Client Connectors |
| 1 | AC(L) | VH-3A or B2P3-VH or the same Spec. | VH-3Y or VHR-3N or the same Spec. |
| 2 | NoPin | | |
| 3 | AC(N) | | |
| 4 | GND | VH-6A or B6P-VH or the same Spec. | VH-6Y or VHR-6N or the same Spec. |
| 5 | +Vo1 | | |
| 6 | NC | | |
| 7 | -Vo2 | | |
| 8 | COM | | |
| 9 | +Vo2 | | |

Note:
Unit: mm[inch]
General tolerances: $\pm 0.50[\pm 0.020]$
In CON1 model: VH-3A, Client Connectors: VH-3Y
Out CON2 model: VH-6A, Client Connectors: VH-6Y
Mounting hole screwing torque: Max 0.4 N·m
The layout of the device is for reference only, please refer to the actual product

Notes:

1. Packaging information please refer to Product Packaging Information which can be downloaded from www.mornsun-power.com. Packaging bag number: 58220019;
2. If the product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the datasheet;
3. Unless otherwise specified, parameters in this datasheet were measured under the conditions of $T_a=25^\circ\text{C}$, humidity <75% with nominal input voltage and rated output load;
4. All index testing methods in this datasheet are based on our company corporate standards;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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