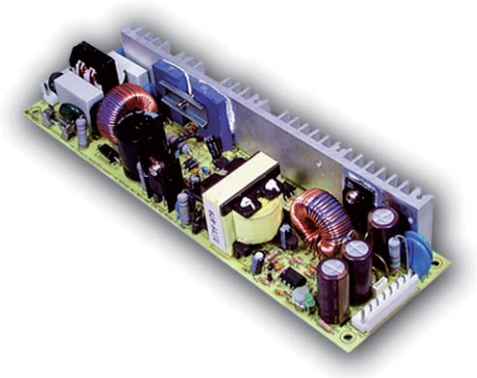
100W Single Output with PFC Function

# LPP-100 series



■ Features :

- Universal AC input / Full range
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- 100% full load burn-in test
- Fixed switching frequency at PFC:67KHz PWM:134KHz
- 3 years warranty

## SPECIFICATION

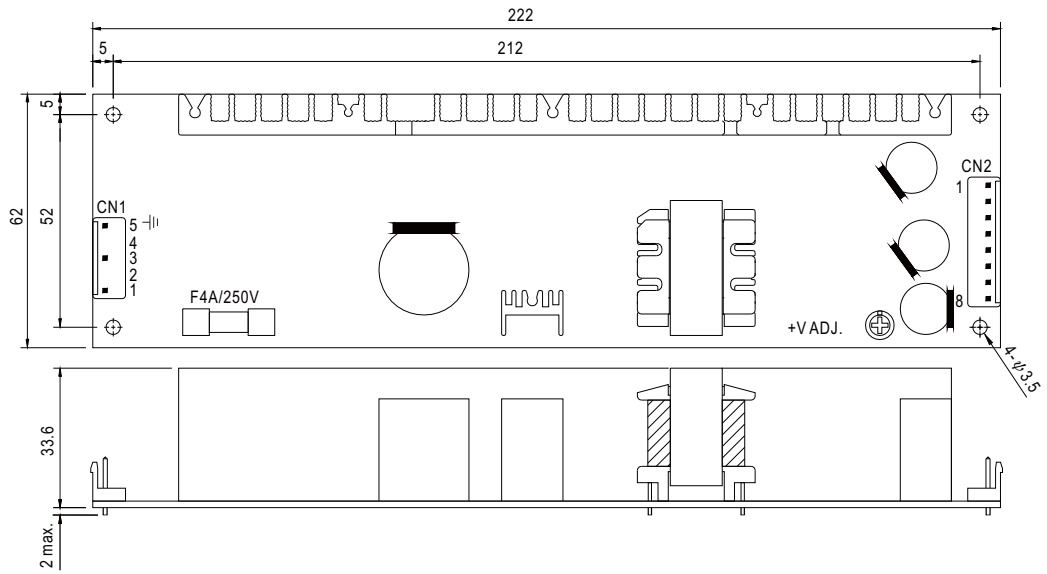
| MODEL | | LPP-100-3.3 | LPP-100-5 | LPP-100-7.5 | LPP-100-12 | LPP-100-13.5 | LPP-100-15 | LPP-100-24 | LPP-100-27 | LPP-100-48 |
|---|---|---|---|---|---|---|---|---|---|---|
| OUTPUT | DC VOLTAGE | 3.3V | 5V | 7.5V | 12V | 13.5V | 15V | 24V | 27V | 48V |
| | RATED CURRENT | 20A | 20A | 13.5A | 8.5A | 7.5A | 6.7A | 4.2A | 3.8A | 2.1A |
| | CURRENT RANGE | 0 ~ 20A | 0 ~ 20A | 0 ~ 13.3A | 0 ~ 8.5A | 0 ~ 7.5A | 0 ~ 6.7A | 0 ~ 4.2A | 0 ~ 3.8A | 0 ~ 2.1A |
| | RATED POWER | 66W | 100W | 101.25W | 102W | 101.25W | 100.5W | 100.8W | 102.6W | 100.8W |
| | RIPPLE & NOISE (max.) Note.2 | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 150mVp-p | 150mVp-p | 250mVp-p |
| | VOLTAGE ADJ. RANGE | 3.14 ~ 3.63V | 4.75 ~ 5.5V | 7.13 ~ 8.25V | 11.4 ~ 13.2V | 12.8 ~ 14.9V | 14.3 ~ 16.5V | 22.8 ~ 26.4V | 25.7 ~ 29.7V | 45.6 ~ 52.8V |
| | VOLTAGE TOLERANCE Note.3 | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±1.0% | ±1.0% | ±1.0% |
| | LINE REGULATION | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% |
| | LOAD REGULATION | ±1.0% | ±1.0% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% |
| | SETUP, RISE TIME | 600ms, 30ms/230VAC 1200ms, 30ms/115VAC at full load | | | | | | | | |
| | HOLD UP TIME (Typ.) | 28ms/230VAC 28ms/115VAC at full load | | | | | | | | |
| INPUT | VOLTAGE RANGE Note.5 | 85 ~ 264VAC 120 ~ 370VDC | | | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | | |
| | POWER FACTOR (Typ.) | PF>0.95/230VAC PF>0.98/115VAC at full load | | | | | | | | |
| | EFFICIENCY(Typ.) | 69% | 75% | 76% | 79% | 79% | 80% | 83% | 83% | 83% |
| | AC CURRENT (Typ.) | 1.7A/115VAC 0.75A/230VAC | | | | | | | | |
| | INRUSH CURRENT (Typ.) | COLD START 30A/230VAC | | | | | | | | |
| | LEAKAGE CURRENT | <2mA / 240VAC | | | | | | | | |
| PROTECTION | OVERLOAD | 105 ~ 150% rated output power | | | | | | | | |
| | | Protection type : Constant current limiting, recovers automatically after fault condition is removed | | | | | | | | |
| | OVER VOLTAGE | 3.8 ~ 4.45V | 5.75 ~ 6.75V | 8.6 ~ 10.1V | 13.8 ~ 16.2V | 15.5 ~ 18.2V | 17.25 ~ 20.25V | 27.6 ~ 32.4V | 31 ~ 36.45V | 55.2 ~ 64.8V |
| | | Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | | |
| ENVIRONMENT | WORKING TEMP. | -10 ~ +60℃ (Refer to "Derating Curve") | | | | | | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -20 ~ +85℃, 10 ~ 95% RH | | | | | | | | |
| | TEMP. COEFFICIENT | ±0.05%/℃ (0 ~ 50℃) | | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes | | | | | | | | |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS | UL60950-1, TUV EN60950-1, EAC TP TC 004 approved | | | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC | | | | | | | | |
| | ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH | | | | | | | | |
| | EMC EMISSION | Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020 | | | | | | | | |
| | EMC IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level, criteria A, EAC TP TC 020 | | | | | | | | |
| OTHERS | MTBF | 224.3Khrs min. MIL-HDBK-217F (25℃) | | | | | | | | |
| | DIMENSION | 222*62*33.6mm (L*W*H) | | | | | | | | |
| | PACKING | 0.51Kg; 24pcs/13.9Kg/1.39CUFT | | | | | | | | |

**NOTE**

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com)
5. Derating may be needed under low input voltages. Please check the derating curve for more details.
6. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

## ■ Mechanical Specification

Unit:mm




AC Input Connector (CN1) : JST B5P-VH or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---|---|---|---|
| 1 | AC/L | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2,4 | No Pin | | |
| 3 | AC/N | | |
| 5 | FG ⏚ | | |

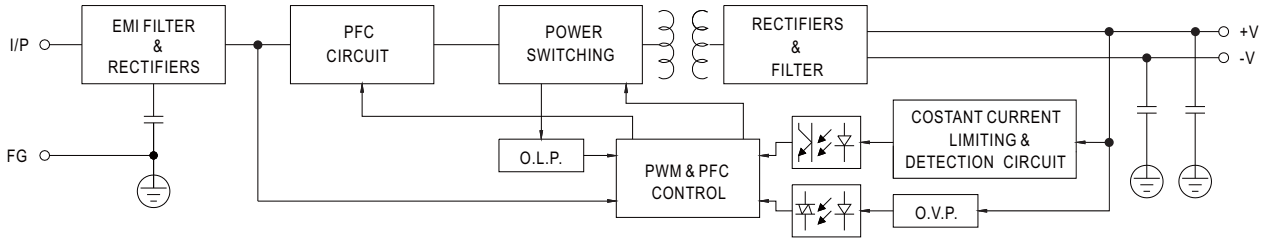
⏚ : Grounding Required
CN1:Pin 5 is safety ground

DC Output Connector (CN2) : JST B8P-VH or equivalent

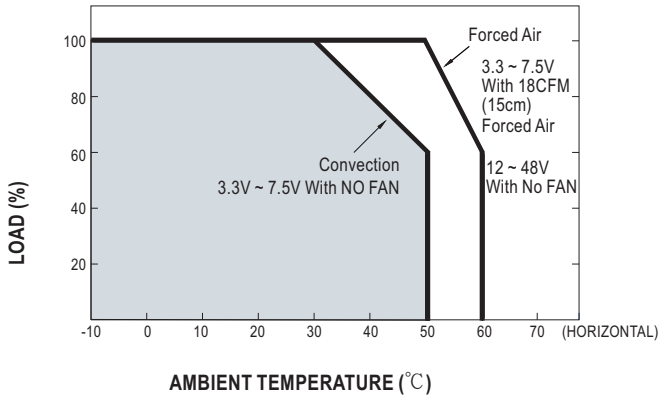
| Pin No. | Assignment | Mating Housing | Terminal |
|---|---|---|---|
| 1,2,3,4 | -V | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 5,6,7,8 | +V | | |

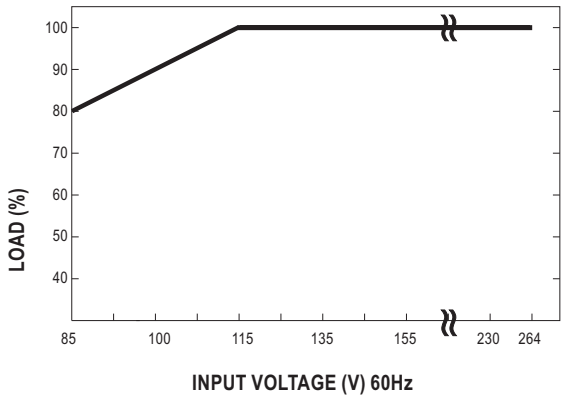
## ■ Block Diagram

PFC fosc : 67KHz
PWM fosc : 134KHz




## ■ Derating Curve




## ■ Output Derating VS Input Voltage