

Professionally approved products.

Datasheet

Constant Voltage LED Driver 60.48W 54V 1.12A RS LPF-60-54

RS Stock number 738-2122



■ Features :

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 90%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Fully isolated plastic case
- Fully encapsulated with IP67 level (Note.6)
- Class II power unit, no FG
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations

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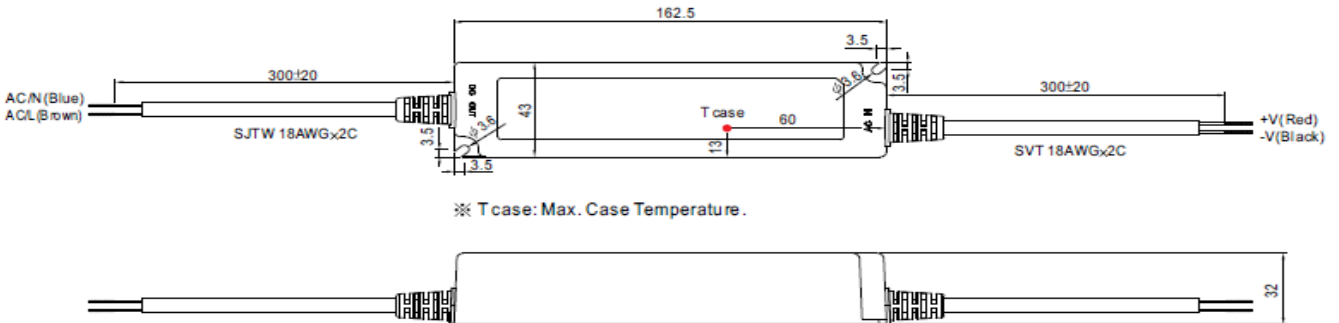
SPECIFICATION

| MODEL | | LPF-60-12 | LPF-60-15 | LPF-60-20 | LPF-60-24 | LPF-60-30 | LPF-60-36 | LPF-60-42 | LPF-60-48 | LPF-60-54 | |
|--------------|---|---|------------|--------------------------|------------|-----------|------------|------------|------------|------------|--|
| OUTPUT | DC VOLTAGE | 12V | 15V | 20V | 24V | 30V | 36V | 42V | 48V | 54V | |
| | CONSTANT CURRENT REGION <small>Note.4</small> | 7.2 ~ 12V | 9 ~ 15V | 12 ~ 20V | 14.4 ~ 24V | 18 ~ 30V | 21.6 ~ 36V | 25.2 ~ 42V | 28.8 ~ 48V | 32.4 ~ 54V | |
| | RATED CURRENT | 5A | 4A | 3A | 2.5A | 2A | 1.67A | 1.43A | 1.25A | 1.12A | |
| | RATED POWER | 60W | 60W | 60W | 60W | 60W | 60.12W | 60.06W | 60W | 60.48W | |
| | RIPPLE & NOISE (max.) <small>Note.2</small> | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 200mVp-p | 250mVp-p | 250mVp-p | 250mVp-p | 350mVp-p | |
| | VOLTAGE TOLERANCE <small>Note.3</small> | ±4.0% | ±4.0% | ±4.0% | ±4.0% | ±4.0% | ±4.0% | ±4.0% | ±4.0% | ±4.0% | |
| | LINE REGULATION | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | |
| | LOAD REGULATION | ±2.0% | ±1.5% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | |
| | SETUP, RISE TIME <small>Note.7</small> | 1000ms, 80ms / 115VAC at full load 1000ms, 80ms / 230VAC | | | | | | | | | |
| | HOLD UP TIME (Typ.) | 16ms/230VAC | | 16ms/115VAC at full load | | | | | | | |
| INPUT | VOLTAGE RANGE <small>Note.5</small> | 90 ~ 305VAC | | 127 ~ 431VDC | | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | | | |
| | POWER FACTOR (Typ.) | PF>0.97/115VAC, PF>0.95/230VAC, PF>0.92/277VAC at full load (Please refer to "Power Factor Characteristic" curve) | | | | | | | | | |
| | EFFICIENCY (Typ.) | 86% | 87% | 88% | 89% | 90% | 90% | 90% | 90% | 90% | |
| | AC CURRENT (Typ.) | 0.8A / 115VAC | | 0.4A / 230VAC | | | | | | | |
| | INRUSH CURRENT (Typ.) | COLD START 75A/230VAC | | | | | | | | | |
| | LEAKAGE CURRENT | <0.75mA / 240VAC | | | | | | | | | |
| PROTECTION | OVER CURRENT <small>Note.4</small> | 95 ~ 108% Protection type: Constant current limiting, recovers automatically after fault condition is removed | | | | | | | | | |
| | SHORT CIRCUIT | Hiccup mode, recovers automatically after fault condition is removed. | | | | | | | | | |
| | OVER VOLTAGE | 15 ~ 17V | 17.5 ~ 21V | 23 ~ 27V | 28 ~ 35V | 34 ~ 40V | 41 ~ 49V | 46 ~ 54V | 54 ~ 63V | 59 ~ 66V | |
| | OVER TEMPERATURE | 90°C ±10°C (RTH2) Protection type: Shut down o/p voltage, re-power on to recover | | | | | | | | | |
| ENVIRONMENT | WORKING TEMP. | -40 ~ +70°C (Refer to "Derating Curve") | | | | | | | | | |
| | WORKING HUMIDITY | 20 ~ 95% RH non-condensing | | | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +80°C, 10 ~ 95% RH | | | | | | | | | |
| | TEMP. COEFFICIENT | ±0.03%/°C (0 ~ 50°C) | | | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes | | | | | | | | | |
| SAFETY & EMC | SAFETY STANDARDS <small>Note.6</small> | UL8750, EN61347-1, EN61347-2-13 independent, IP67 approved; Design refer to UL60950-1, TUV EN60950-1 | | | | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P: 3.75KVAC | | | | | | | | | |
| | ISOLATION RESISTANCE | I/P-O/P: 100M Ohms / 500VDC / 25°C / 70% RH | | | | | | | | | |
| | EMC EMISSION | Compliance to EN55015, EN61000-3-2 Class C (≥60% load); EN61000-3-3 | | | | | | | | | |
| | EMC IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, EN55024, light industry level (surge 2KV), criteria A | | | | | | | | | |
| OTHERS | MTBF | 440.5Khrs min. MIL-HDBK-217F (25°C) | | | | | | | | | |
| | DIMENSION | 162.5*42.5*32mm (L*W*H) | | | | | | | | | |
| | PACKING | 0.45Kg; 32pcs/15.4Kg/0.93CUFT | | | | | | | | | |

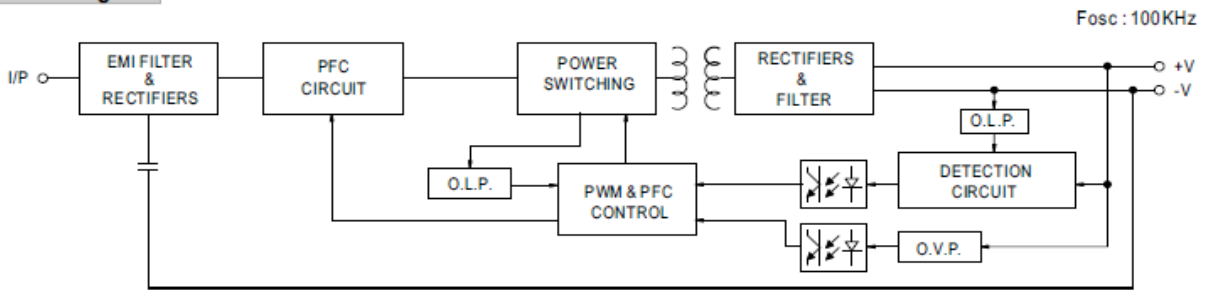
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Mechanical Specification

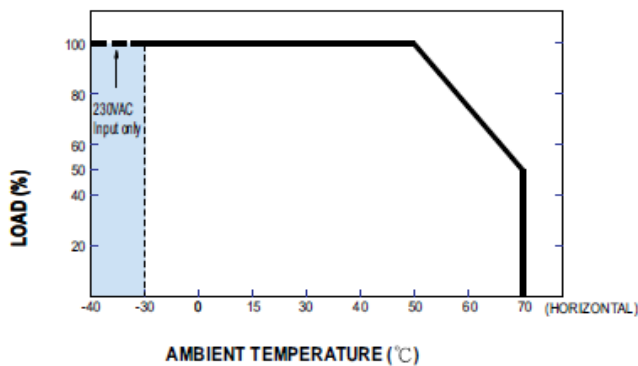
Case No. LPF-60B Unit:mm



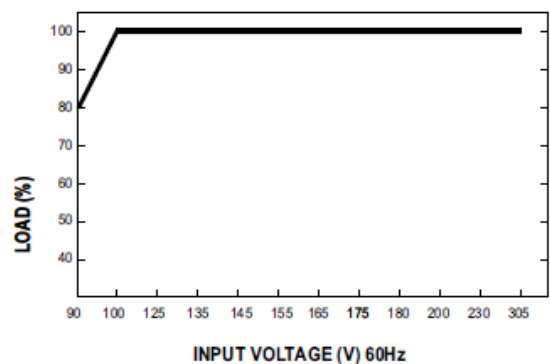
Block Diagram



Derating Curve

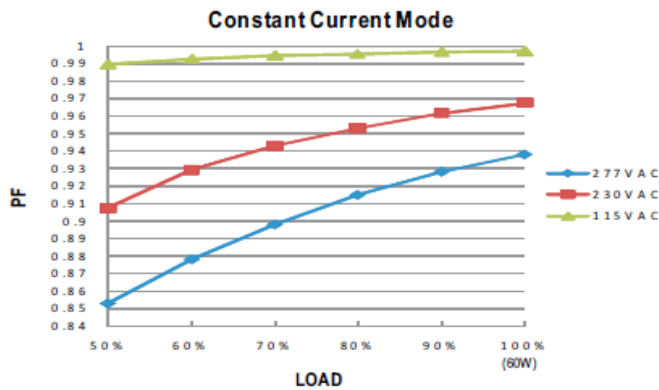


Static Characteristics



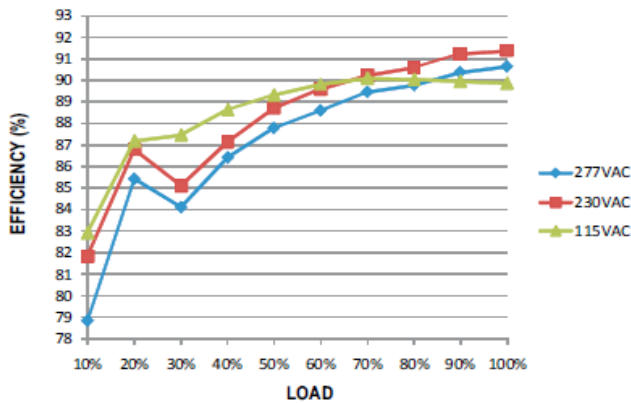
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Power Factor Characteristic

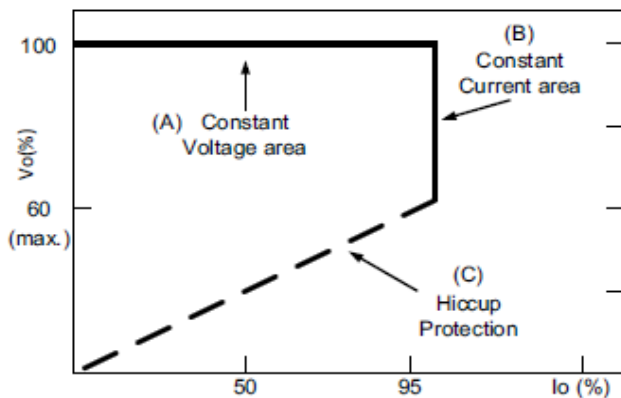


EFFICIENCY vs LOAD (48V Model)

LPF-60 series possess superior working efficiency that up to 90% can be reached in field applications.



DRIVING METHODS OF LED MODULE



Typical LED power supply I-V curve