## 60W Single Output Switching Power Supply

### LPV-60 series

- **Features:**
  - Constant voltage design
  - Universal AC input / Full range
  - Withstand 300VAC surge input for 5 seconds
  - Protections: Short circuit / Over load / Over voltage
  - Cooling by free air convection
  - Fully encapsulated with IP67 level (Note.8)
  - Fully isolated plastic case
  - Class II power unit, no FG
  - Class 2 power unit
  - Pass LPS
  - Suitable for LED related fixture or appliance (such as LED Decoration or Advertisement devices)(Note.7)
  - 100% full load burn-in test
  - Low cost, high reliability
  - 2 years warranty

### SPECIFICATION

#### OUTPUT

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DC VOLTAGE</th>
<th>RATED CURRENT</th>
<th>CURRENT RANGE</th>
<th>RATED POWER</th>
<th>RIPPLE &amp; NOISE (max.)</th>
<th>VOLTAGE TOLERANCE</th>
<th>LINE REGULATION</th>
<th>LOAD REGULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPV-60-5</td>
<td>5V</td>
<td>8A</td>
<td>0 ~ 8A</td>
<td>40W</td>
<td>80mVp-p</td>
<td>±0.0%</td>
<td>±1.0%</td>
<td>±0.0%</td>
</tr>
<tr>
<td>LPV-60-12</td>
<td>12V</td>
<td>5A</td>
<td>0 ~ 5A</td>
<td>60W</td>
<td>120mVp-p</td>
<td>±0.0%</td>
<td>±1.0%</td>
<td>±2.0%</td>
</tr>
<tr>
<td>LPV-60-15</td>
<td>15V</td>
<td>4A</td>
<td>0 ~ 4A</td>
<td>60W</td>
<td>120mVp-p</td>
<td>±0.0%</td>
<td>±1.0%</td>
<td>±2.0%</td>
</tr>
<tr>
<td>LPV-60-24</td>
<td>24V</td>
<td>2.5A</td>
<td>0 ~ 2.5A</td>
<td>60W</td>
<td>150mVp-p</td>
<td>±0.0%</td>
<td>±1.0%</td>
<td>±2.0%</td>
</tr>
<tr>
<td>LPV-60-36</td>
<td>36V</td>
<td>1.67A</td>
<td>0 ~ 1.67A</td>
<td>60W</td>
<td>150mVp-p</td>
<td>±0.0%</td>
<td>±1.0%</td>
<td>±2.0%</td>
</tr>
<tr>
<td>LPV-60-48</td>
<td>48V</td>
<td>1.25A</td>
<td>0 ~ 1.25A</td>
<td>60W</td>
<td>150mVp-p</td>
<td>±0.0%</td>
<td>±1.0%</td>
<td>±2.0%</td>
</tr>
</tbody>
</table>

#### INPUT

<table>
<thead>
<tr>
<th>VOLTAGE RANGE</th>
<th>FREQUENCY RANGE</th>
<th>EFFICIENCY (Typ.)</th>
<th>AC CURRENT (Typ.)</th>
<th>INRUSH CURRENT (Typ.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 ~ 264VAC</td>
<td>47 ~ 63Hz</td>
<td>76%</td>
<td>1.2A/115VAC</td>
<td>COLD START 60A(width:525μs measured at 50% Ipeak) at 230VAC</td>
</tr>
<tr>
<td>127 ~ 370VDC</td>
<td></td>
<td>83%</td>
<td>1A/230VAC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>83%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>86%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>86%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>86%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### PROTECTION

<table>
<thead>
<tr>
<th>OVER LOAD</th>
<th>OVER VOLTAGE</th>
<th>LEAKAGE CURRENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>110 ~ 150%</td>
<td>5.75 ~ 6.75V</td>
<td>0.25mA / 240VAC</td>
</tr>
<tr>
<td>rated output power</td>
<td>13.8 ~ 16.2V</td>
<td></td>
</tr>
<tr>
<td>Protection type: Hiccup mode, recovers automatically after fault condition is removed</td>
<td>17.25 ~ 20.25V</td>
<td></td>
</tr>
<tr>
<td>Protection type: Shut down o/p voltage, re-power on to recover</td>
<td>27.6 ~ 32.4V</td>
<td></td>
</tr>
<tr>
<td>41.4 ~ 48.6V</td>
<td>55.2 ~ 64.8V</td>
<td></td>
</tr>
</tbody>
</table>

#### ENVIRONMENT

<table>
<thead>
<tr>
<th>WORKING TEMPERATURE</th>
<th>WORKING HUMIDITY</th>
<th>STORAGE TEMP., HUMIDITY</th>
<th>TEMPERATURE COEFFICIENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>-30 ~ +70°C (Refer to &quot;Derating Curve&quot;)</td>
<td>20 ~ 90% RH non-condensing</td>
<td>-40 ~ +80°C, 10 ~ 95% RH</td>
<td>±0.03%/°C (0 ~ 50°C)</td>
</tr>
</tbody>
</table>

#### SAFETY & EMC

- **VIBRATION:** 10 ~ 500Hz, 2G 10min./cycle, period for 60min. each along X, Y, Z axes
- **SAFETY STANDARDS:** UL879(except for LPV-60-5), UL1310(except for LPV-60-5), CSA C22.2 No. 207-M89(except for LPV-60-5, LPV-60-60), CAN/CSA C22.2 No. 223-M91(except for LPV-60-5, LPV-60-48), BIS IS15858S(for LPV-60-12, LPV-60-24 only), EAC TP TC 004, IP67, IEC60950-1:2005+A2:2013 approved; design refer to TUV EN60950-1
- **WITHSTAND VOLTAGE:** IP-O/P:3kVAC
- **ISOLATION RESISTANCE:** IP-O/P:>100M Ohms / 500VDC / 25°C / 70% RH
- **EMC EMISSION:** Compliance to EN55032 (CISPR32) Class B, EN61000-3-2 Class A, EN61000-3-3, 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
- **MTBF:** 732Khrs min. MIL-HDBK-217F (25°C)
- **DIMENSION:** 162.5"x94.5"x32mm (L"W"H)
- **PACKING:** 0.4Kg, 32pcs/13.8Kg/0.5CUFT

### NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C 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. Derating may be needed under low input voltage. Please check the static characteristics for more details.
5. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
6. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.
7. The unit might not be suitable for lighting applications in EU countries. Please check with your local authorities for the possible use of the unit.
8. Suitable for indoor use or outdoor use without direct sunlight exposure. Please avoid immerse in the water over 30 minute.
9. The ambient temperature derating of 3.5%/1000m from fansless models and of 5%/1000m with fans models for operating altitude higher than 2000m.(6500ft)
10. Products sourced from the Americas regions may not have the TUV/BIS/C Clc logo. Please contact your MEAN WELL sales for more information.
11. For any application note and IP water proof function installation caution, please refer our user manual before using.

For more information, please visit: [https://www.meanwell.com/UploadPDF/LED_EN.pdf](https://www.meanwell.com/UploadPDF/LED_EN.pdf)
**Mechanical Specification**

- fosc: 65KHz
- PWM
- O.L.P.
- EMI FILTER
- RECTIFIERS

**Block Diagram**

- fosc: 65KHz
- EMI FILTER & RECTIFIERS
- POWER SWITCHING
- RECTIFIERS & FILTER
- DETECTION CIRCUIT
- O.V.P.

**Derating Curve**

**Static Characteristics**

- DAMIENT TEMPERATURE (°C)
- AMBIENT TEMPERATURE (°C)
- INPUT VOLTAGE (V) 60Hz