LED-25W Series – Fixed Output and Dimmable
Switch Mode LED Drivers
Constant Current & Constant Voltage with Isolation
Black Magic Thermal Advantage™ Plastic Housing

Electrical Specifications

Input Voltage Range: 100-277 Vac Nom. (90-305 V Min/Max)
Input Over-Voltage: Can endure 320Vac for 48 Hrs, 350Vac for 2 Hrs
Frequency: 50/60 Hz Nom. (47-63 Hz Min/Max)
Power Factor: >0.90 @ full load, 100V through 277V
Inrush Current: <15.0 Amps max @ 230 Vac, cold start 25ºC
Input Current: 0.25 Amps max @ 120 Vac
Maximum Power: 25W
Current Accuracy: ± 1% Over input line variation
Load Regulation: ± 3%
THD: < 20% @ full load
Turn-On Delay: <1.0 Sec. @ full output; 1-4 Sec. @ full dim
Leakage Current: 400 µA Typical
Hold Up Time: Half Cycle
Protection: Output Over-Voltage, Output Over-Current, and Output Short Circuit Protection with Auto Recovery

Environmental Specifications

Minimum Starting Temp: -30ºC
Maximum Case Temp. 90ºC
Storage Temperature: -40ºC to +85ºC
Humidity: 5% to 95%
Cooling: Convection
Vibration Frequency: 5 to 55 Hz/2g, 30 minutes
Sound Rating: Class A
MTBF: 482,000 Hours at full load and 40ºC ambient conditions per MIL-217F Notice 2
EMC: FCC 47CFR Part 15 Class B compliant

Ordering Options:

- D: 0-10V & Resistance dimmable version comes with an extra two wires +Purple/-Gray on the output side. "-D" 0-10V Dimming is compatible with most quality 0-10V wall dimmers. See page 3 for additional specifications.
- PD: PWM Dimmable version comes with an extra two wires +Purple/-Gray on the output side. "-PD" version is PWM Dimmable via a positive 10% to 100% Duty Cycle, 200Hz to 1KHz, 0-10V Pulse. See page 4 for additional specifications.

Table: Constant Current

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Output Current (mA ±3%)</th>
<th>Output Voltage Range (Vdc)</th>
<th>Max. Output Power (W)</th>
<th>Typical Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED25W-72-C0350-XX</td>
<td>350</td>
<td>24-72</td>
<td>25</td>
<td>86%</td>
</tr>
<tr>
<td>LED25W-40-C0350-XX</td>
<td>350</td>
<td>13-40</td>
<td>14</td>
<td>84%</td>
</tr>
<tr>
<td>LED25W-28-C0350-XX</td>
<td>350</td>
<td>10-28</td>
<td>9.8</td>
<td>83%</td>
</tr>
<tr>
<td>LED25W-62-C0400-XX</td>
<td>400</td>
<td>21-62</td>
<td>24.8</td>
<td>85%</td>
</tr>
<tr>
<td>LED25W-56-C0450-XX</td>
<td>450</td>
<td>19-56</td>
<td>25</td>
<td>84%</td>
</tr>
<tr>
<td>LED25W-62-C0450-XX</td>
<td>500</td>
<td>13-40</td>
<td>20</td>
<td>84%</td>
</tr>
<tr>
<td>LED25W-40-C0620-XX</td>
<td>620</td>
<td>13-40</td>
<td>24.8</td>
<td>84%</td>
</tr>
<tr>
<td>LED25W-36-C0700-XX</td>
<td>700</td>
<td>12-36</td>
<td>25</td>
<td>84%</td>
</tr>
<tr>
<td>LED25W-28-C0850-XX</td>
<td>850</td>
<td>10-28</td>
<td>23.8</td>
<td>83%</td>
</tr>
<tr>
<td>LED25W-24-C1040-XX</td>
<td>1040</td>
<td>8-24</td>
<td>25</td>
<td>83%</td>
</tr>
<tr>
<td>LED25W-20-C1250-XX</td>
<td>1250</td>
<td>7-20</td>
<td>25</td>
<td>83%</td>
</tr>
<tr>
<td>LED25W-18-C1400-XX</td>
<td>1400</td>
<td>6-18</td>
<td>25</td>
<td>82%</td>
</tr>
<tr>
<td>LED25W-16-C1560-XX</td>
<td>1560</td>
<td>6-16</td>
<td>25</td>
<td>82%</td>
</tr>
<tr>
<td>LED25W-14-C1750-XX</td>
<td>1750</td>
<td>5-14</td>
<td>24.5</td>
<td>82%</td>
</tr>
<tr>
<td>LED25W-12-C2080-XX</td>
<td>2080</td>
<td>4-12</td>
<td>25</td>
<td>81%</td>
</tr>
</tbody>
</table>

Note:
LED drivers are designed and intended to operate LED loads only. Non-LED loading may be outside the specified design limits of our LED drivers, and therefore cannot be covered by any warranty. If you desire to use our LED drivers to operate non-LED loads please contact us to discuss compatibility. Specifications subject to change without notice.
Dimensions - IN [mm]

WIRE SPECS:
Input Leads: 18 AWG, rated 600 V, 105C, min.  
Output Leads: 18 AWG, rated 300 V, 105C, min.  
Dimming Leads: 22 AWG, rated 300 V, 105C.  
All wires are stranded with solder dipped ends.

Power Factor / Load

THD / Load

Typical Efficiency / Load

Lifetime / Case Temperature

UL Conditions of Acceptability
See website for additional information

Note:
Life calculations are based on reliability with confidence using a 90% confidence level and <5% failure rate. At a confidence level of 90% it is expected that <5% of the parts will fail at the rated life provided. (Failure is defined as a driver drifting outside specification, rather than fail to operate.)

Safety and EMC Compliance

UL/CUL  UL8750, CSA-C22.2  
C E  EN 61347  
FCC, 47CFR Part 15  Class B  
EN61000-3-2  
EN61000-3-3  Class C  
EN61000-4-5  2kV
“-D” Option: 0-10VDC and Resistance Dimming

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Minimum</th>
<th>Typical</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Current out of 0-10V Purple Wire</td>
<td>0 mA</td>
<td>—</td>
<td>2 mA</td>
</tr>
<tr>
<td>Absolute Voltage Range on 0-10V (+) Purple Wire</td>
<td>-2.0 V</td>
<td>—</td>
<td>+15 V</td>
</tr>
</tbody>
</table>

Notes:
1. 0-10V dimmable version comes with an extra two wires +Purple/-Gray on the output side.
2. Compatible with most 0-10V dimmers. Recommended dimmer is Leviton IP710 or equivalent.
3. 0-10V dimmable version is not intended to dim below about 5% @ 0V or 10% @ 1.0V.
4. 0-10V dimmable version output will be 100% with Purple/Gray open and minimum with Purple/Gray Shorted.
“-PD” Option: PWM Dimming

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Minimum</th>
<th>Typical</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute Maximum Voltage Range on PWM Input (Purple Wire)</td>
<td>-2.0V</td>
<td>10V</td>
<td>+28V</td>
</tr>
<tr>
<td>Input LOW Level Voltage Range (Purple Wire)</td>
<td>-2.0</td>
<td>0V</td>
<td>+7.5V</td>
</tr>
<tr>
<td>Input HIGH Level Voltage Range (Purple Wire)</td>
<td>+9.0</td>
<td>10V</td>
<td>28V</td>
</tr>
<tr>
<td>Sink Current into PWM Input (Purple Wire)</td>
<td>0mA</td>
<td>—</td>
<td>1.2mA</td>
</tr>
<tr>
<td>PWM Input Signal Frequency</td>
<td>200Hz</td>
<td>—</td>
<td>1000Hz</td>
</tr>
<tr>
<td>PWM Input Signal Positive Duty Cycle</td>
<td>0%</td>
<td>10-90%</td>
<td>100%</td>
</tr>
</tbody>
</table>

PWM Positive Dimming Typical Circuit

LED25W-XX-CXXX-PD

PWM (+) Purple
PWM In
PWM (-) Gray

Output Current / Positive Duty Cycle

Notes:
1. PWM Dimmable version comes with an extra 2 wires +Purple/-Gray on the output side.
2. Below 10% Duty cycle proper dimming operation is not assured. Unit is not intended to turn off at <10% Duty Cycle.
3. PWM dimmable version output will be 100% with Purple/Gray open and minimum with Purple/Gray Shorted.