MU050S150BQI511  Intelligent indoor LED driver

### Features
- **Input voltage:** 100–277Vac  140-388Vdc
- **Built-in active PFC function** 0.95 Typ.
- **High efficiency:** up to 87% Typ.
- **Constant current, 2 channels output**
- **Support DALI Dimming**
- **4 in 1:** DT8 tunable white(1500-6500K), DT6 tunable white(1500–6500K), solo dimming, dual dimming
- **Output current can be set from 150–1500mA**
- **AUX output** 12V, 150mA
- **Protection:** OVP, SCP, OPP, OTP
- **According with UL Class2 / EN SELV**
- **5-year warranty**

### Specification

<table>
<thead>
<tr>
<th>Model (MU050S150BQI511)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency(230Vac)</td>
<td>87% (Typical) at 55V/0.91A load condition</td>
</tr>
<tr>
<td>Efficiency(120Vac)</td>
<td>87% (Typical) at 55V/0.91A load condition</td>
</tr>
<tr>
<td>Voltage Range</td>
<td>90-305Vac ; 126-427Vac</td>
</tr>
<tr>
<td>Rated Input Voltage</td>
<td>100-277Vac , 140-388Vdc</td>
</tr>
<tr>
<td>Frequency Range (Hz)</td>
<td>50/60</td>
</tr>
<tr>
<td>Power Factor</td>
<td>&gt;0.9 at 100–277Vac 50/60Hz input, with 60%–100% load conditions</td>
</tr>
<tr>
<td>THD</td>
<td>&lt;20% at 100–277Vac 50/60Hz input, with 60%–100% load conditions</td>
</tr>
<tr>
<td>AC Current(Typ.)</td>
<td>0.55A MAX at 120VAC , 0.3A MAX at 230VAC</td>
</tr>
<tr>
<td>Inrush Current(Typ.)</td>
<td>&lt;10A at 100–277Vac input 25℃, cold start at 100% conditions, for more details in the attached graph</td>
</tr>
<tr>
<td>Input Power (W)</td>
<td>80(max)</td>
</tr>
<tr>
<td>Standby power (W)</td>
<td>&lt;0.5W at input 120V, 230V</td>
</tr>
<tr>
<td>Leakage Current(max.)</td>
<td>0.75mA at 277Vac 60Hz input</td>
</tr>
<tr>
<td>Output Voltage Range (V)$_{max}$</td>
<td>8-55</td>
</tr>
<tr>
<td>Output Current Range(mA)</td>
<td>150–1500, Support hot plug, without overshoot current</td>
</tr>
<tr>
<td>Rated Power (W)</td>
<td>50(max)</td>
</tr>
<tr>
<td>Output channels</td>
<td>2</td>
</tr>
<tr>
<td>Ripple Current</td>
<td>Output current 200–1500mA, ripple LF(&lt;120Hz) ≤ 3 %, ripple = peak / average, ripple HF ≤ 30 %</td>
</tr>
<tr>
<td>Current Tolerance</td>
<td>±5%</td>
</tr>
<tr>
<td>Line Regulation</td>
<td>±1%</td>
</tr>
<tr>
<td>Load Regulation</td>
<td>±3%</td>
</tr>
<tr>
<td>Setup, Rise Time</td>
<td>&lt;0.5S @120V/60HZ, 230V/50HZ</td>
</tr>
<tr>
<td>AUX output</td>
<td>12V±3%, 150mA max</td>
</tr>
</tbody>
</table>

**Dimming Control**
- DALI dimming / 0.1%Io~100%Io ref. Dimming module diagram and dimming curve

**Protection**
- Open circuit protection(V)
- 60
- Short Circuit: Power supply stops output, recovers automatically when fault condition removed
- Over Power: Solo&Dual dimming the current drops by 5% per 100ms; Tunable white each time drops 10%
- Over Temperature: tc 100℃±10℃. Hiccup mode, When the temperature of tc rise to 100℃ (Typ.)
- Operating Humidity: 20~95%RH, non-condensing
- Storage Temp., Humidity: -40~+85℃, 10-95%RH
- Vibration: 10~50Hz, 5G 12min/cycle, period for 72min each along X, Y, Z axis
- Ingress Protection Rating: IP20

**Safety & EMC**
- Safety Standard: UL8750, CSA C22.2 No.250.13-14, EN61347-1, EN61347-2-13
- Isolation: UL UL8750, CSA C22.2 No.250.13-14, EN61347-1, EN61347-2-13
- Output: No applicable
- Dimming interface: 1.6KV
- Enclosure: 1.875KV
- Isolation Resistance: I/P-O/P ,I/P-FG, O/P-FG:100M Ohms/500VDC/25℃/70%RH
- EMC Emission: FCC Part 15 ClassB, EN55015, EN61000-3-2 Class C, EN61000-3-3
- EMC Immunity: EN61000-4-2,3,4,5,6,8,11, .EN61547 (Surge L-N-2KV, L-N 1KV)  Additional suger test L-N 2.5KV/L-N 2.5KV

**Others**
- Life time: >50000@1℃±70℃ at 100% load conditions
- MTBF: 300,000 hours, measured at full load, 25℃ ambient temperature MIL-HDBK-217F(25℃)
- Dimension (LxWxH): 130x 76 x 30 mm ( LxWxH )
- Weight: 375g

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**Note:** refer to V/I curve

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**Version:A0**

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**Curve**

**PF VS. Load Curve**

**THD VS. Load Curve**

**Efficiency VS. Load Curve**
**Inrush current information**

<table>
<thead>
<tr>
<th>Input voltage</th>
<th>Ipeak</th>
<th>Time@50% of Ipeak</th>
</tr>
</thead>
<tbody>
<tr>
<td>120VAC</td>
<td>1.15</td>
<td>50us</td>
</tr>
<tr>
<td>220VAC</td>
<td>2.46</td>
<td>50us</td>
</tr>
<tr>
<td>277VAC</td>
<td>2.85</td>
<td>60us</td>
</tr>
</tbody>
</table>

**Max number of drivers per MCB**

<table>
<thead>
<tr>
<th>Item</th>
<th>Max. number of drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>120</td>
</tr>
<tr>
<td>MCB B type 10A</td>
<td>16</td>
</tr>
<tr>
<td>MCB B type 13A</td>
<td>21</td>
</tr>
<tr>
<td>MCB B type 16A</td>
<td>26</td>
</tr>
<tr>
<td>MCB B type 20A</td>
<td>32</td>
</tr>
<tr>
<td>MCB B type 25A</td>
<td>40</td>
</tr>
</tbody>
</table>
1. DALI interface
   - Comply with IEC62386-102(2.0), IEC62386-207, IEC62386-209
   - Update Online, use smart key to connect PC and the driver to update the firmware.

2. MCS interface (MCS+/MCS-)
   - MCS+ interface voltage 15V
   - Max current setting (each step is 1 mA), default driving current defined as 350 mA.
   - Log or linear dimming curve, default setting is log dimming.
   - NTC thermal management protects LED lamp, when the temperature of LED lamp over temperature protection point, the current will be reduced by 50% every 5 minutes. Default setting is 85°C.

3. Dimming performance
   - When changed to any dimming level, flicker wouldn't occur; dimming would be achieved smoothly.
   - In the range of 200~1500 mA, the current operating in continuous mode; In the range of 0~200mA, the current operating in PWM dimming mode, and the PWM frequency 3.6KHz.

4. Guide for setting driver’s parameters
   - Touch Setting
   - Smartkey Network
     Driver’s parameters can be set through Smartkey Ver.A1 and Smartkey Network. What’s more, driver’s firmware can be updated through this tool. Software download link: http://leddriver.moons.com.cn/SouProduct/UCenter/K_Search/Software_view.aspx?MATNR=SmartkeyNetwork&rnd=1411

5. DT8 Tunable white; DT6 Tunable white, Solo dimming, Dual dimming function introduction
   - **Channel Definition**
     DT8/DT6 Tunable white
     Cold color channel CH1
     Warm color channel CH2
   - **Function Description**
     DT8 Tunable white
     One address controls intensity and color temperature
     DT6 Tunable white
     Address X controls intensity
     Address X+1 controls color temperature
     DT6
     Solo dimming
     Dim two channels through 1 address simultaneously.
     Dual dimming
     Dim two channels through 2 addresses respectively.

6. Default factory settings
   - **Current**
     Channel 1: 350 mA
     Channel 2: 350 mA
   - **General Setting**
     Dimming Strategy: DT8 CCT Driver
     Dimming Curve: Logarithmic
     Minimum Dimming Level: 10%
     NTC: 35
     AUX Enable: Enable
     Physical CCT: Warmest 2500 K, Coolest 6500 K
     Logical CCT: Warmest 2500 K, Coolest 6500 K
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**Mechanical Specification**

Dimensions (Unit: mm)

```
115.88 (4.56")
36.00 (1.42")
```

Port:

```
100-277 VAC
```

**Normal connection using**

- CH1+
- CH1−
- CH2+
- CH2−

**Special connection using**

- CH1+
- CH1−
- CH2+
- CH2−

Get larger output current through parallel connection.

**Support common anode connection.**

**RoHS Compliance:**

Our products comply with the European Directive 2002/95/EC, calling for the elimination of lead and other hazardous substances from electronic products.