MSLD6D

Solar Lantern LED Driver and SMF Battery Charger with PWM Dimming, mobile phone charging

|  |  |
| --- | --- |
| naming.png | **Product Features**   * High efficiency > 85% * Low cost * PWM Dimming * Battery reverse charging protection * LED charging indicator * Battery over voltage protection * Best suited for commercial 6V solar charged lanterns * Solder free   **Application**  MSLD6D is a high efficiency LED driver with - battery charging for 6V SMF and efficient PWM based Dimming control. It houses state of art protection circuits for Battery reverse discharging, battery over voltage protection.  This design is best suited for designing of Solar Lanterns, powered with 6V SMF battery. It can drive LED string with output power 0.5W to -5W |

Product Program

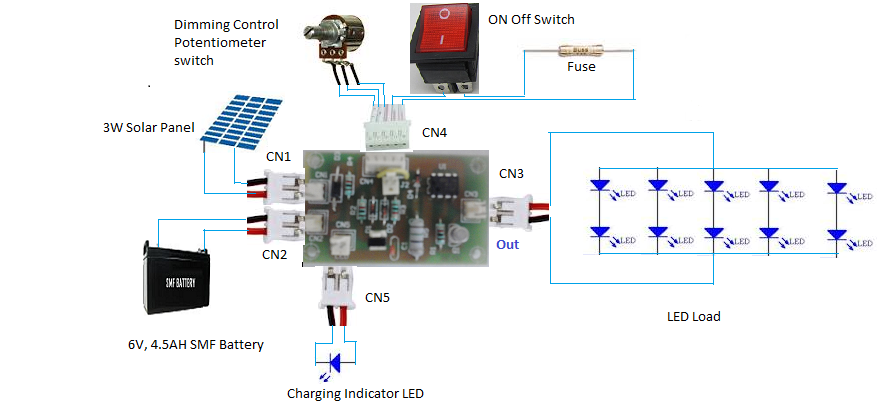
|  |  |
| --- | --- |
| Input Voltage | 6V SMF battery |
| Output Current | – 800mA (max.) |
| Output Voltage |  |
| Output Power | 5W (max.) |
| Dimming Control | PWM Control |
| PWM switching freq. |  |

Connectors

MSLD6D is designed for solder free, easy installation. Design includes following connectors

1. CN1: 2 pin relimate connector for connecting Solar Panel
2. CN2: 2 pin connector for connecting Battery. Fuse must be installed in series of battery to connector terninal
3. CN3: 2 pin connector for connecting LED string
4. CN4: 5 pin connector for connecting potentiometer switch for lantern power ON/OFF and PWM dimming control. and power on/off switch
5. CN5: 2 pin connector for connecting LED charging indicator

Connector Type: XXXX



PCB Size/ Quality

MSLD6D is designed considering

* Compact PCB to fit properly in lantern designs
* Components sufficiently spaced for heat dissipation
* PCB is designed with high quality FR-4 material XXXX for XXXXX
* Connectors mounted on PCB are 2 pin and 5 pin relimate conenctors of 2.54mm
* PCB size is 2.5 inch \* 3 inch

Mobile Charging

Separate small PCB for mobile charger is available.

Details ---- XXX

High efficiency dc-dc switcher based mobile charger

Testing Details

**Test Setup**

MSLD6D is tested as Solar Lantern with following

|  |  |  |
| --- | --- | --- |
| LED Load | No of LED | 12 |
| Manufacturer | Nichia Corporation |
| Model | NESW157B |
| Forward Current Rating | 50 mA |
| Forward Voltage | Typ: 2.9V, Max: 3.1V |
| View Angle | 120 degree |
| Luminance | 6.1 Candella |
| Battery | Manufacturer | Amptek |
| Type | SMF(Rechargeable) |
| Nominal Voltage | 6 |
| C20 Rating | 4.5AH |
| Photo Voltaic Panel | Manufacturer | Maharishi Solar Technology |
| Model | MS B06 |
| Max Power | 3 Watt |
| Voc | 10.5 V |
| Isc | 0.44 amps |
| Vmp | 8.2 V |
| Imp | 0.36 amps |
| LED hosting | Cover | Two transparent glass |
| Outer Glass | XXXX |
| Inner Glass | XXXX |
| LED Strips | 3 |
| No of LED per strip | 4 |
| LED electrical connections | 6 parallel array of LED’s. Each array contains 2 LEDs in series |

**Test Results**

|  |  |  |
| --- | --- | --- |
| **Test Name** | **Test Description** | **Test Results** |
| Lux Measurement | Lux is measurement of illuminance. It measures luminous flux per unit area | |  |  |  | | --- | --- | --- | | **Distance** | **Horizontal** | **Vertical** | | 1 feet |  |  | | 2 feet |  |  | | 3 feet |  |  | | 4 feet |  |  | | 5 feet |  |  | |
| Duty Cycle | Average hours lantern should operate in a day, under average insolation of 5.5 kWh/sqm on a horizontal surface |  |
| Autonomy |  |  |
| Discharge Time | Discharge time of fully charged battery by continuous operation of Lantern |  |
| Charging Time | Time required to fully charge battery using solar panel with following insolation | |  |  | | --- | --- | | **Insolation** | **Time to charge** | | **-** | **-** | | **-** | **-** | |

About Moxie Devices

Moxie Devices is a professionally managed company engaged in the designing, manufacturing, distribution and export of Solar energy and LED based Products for various applications. Our products exemplify TQI (Technology, Quality and Innovation). Our products are known for their enormous energy efficiency and reliable performance.

Our focus is to provide environmentally conscious solutions by creating products that are designed to meet unique customer needs and protect the environment for today and for the future.Moxie Devices is a professionally managed company engaged in the designing, manufacturing, distribution and export of Solar energy and LED based Products for various applications. Our products exemplify TQI (Technology, Quality and Innovation). Our products are known for their enormous energy efficiency and reliable performance