300-1500mA LED Driver

User's Guide

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300-1500MA LED DRIVER USER'S GUIDE

NOTES:

Product Version	**:**	**Ver 1.1**
Document Version	**:**	**Ver 1.0**

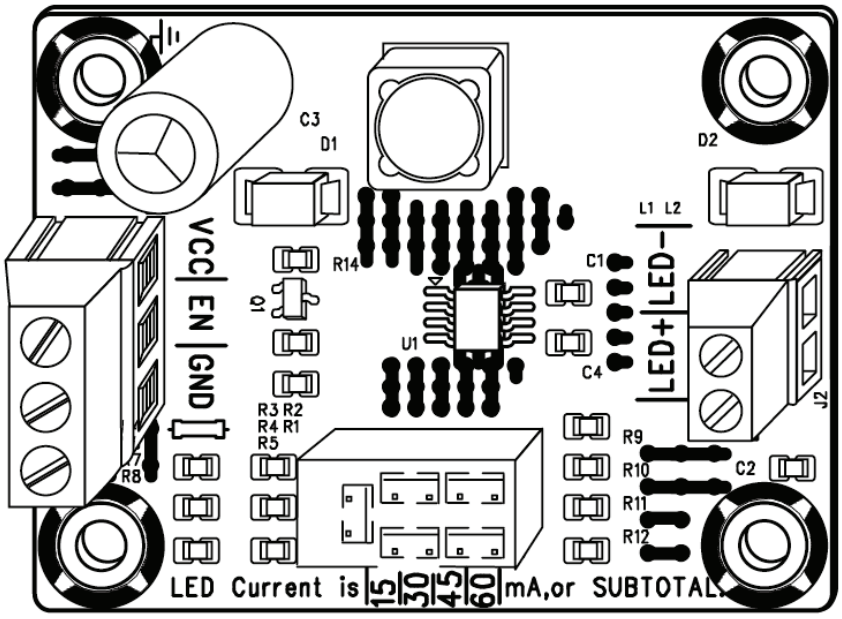
Chapter 1. Overview

1.1 Overview

Welcome to use LED driver series by Sure Electronics. This product integrates a A6211 chip by Macroblock – a high efficiency, constant current and step-down DC/DC converter. Featuring under voltage lock out (UVLO), over temperature protection, LED open-circuited protection and LED short-circuited protection, A6211 makes the drivers' application safer. Additionally, to ensure the system reliability, the A6211 builds thermal protection (TP) function inside. This function protects IC from overheating in various applications. Thus LED drivers shall serve for longer time.

This driver features small size, high efficiency, stability, long service time and easy installation. LED dimming can be controlled via an extra pulse width modulation (PWM) through EN pin.

FIGURE 1-1 FRONT VIEW



1.2 Feature

- Minimized size, high efficiency
- Constant current output, stable LED lighting
- Input voltage: 9V-48V
- Full protection: Thermal/UVLO（Under Voltage Lock Out）/Start-Up/LED Open-/Short-Circuit
- Easy installation and long service life

1.3 Application

- Signage and Decorative LED Lighting
- Automotive LED Lighting
- High Power LED Lighting
- Constant Current Source

Chapter 2. Hardware Detail

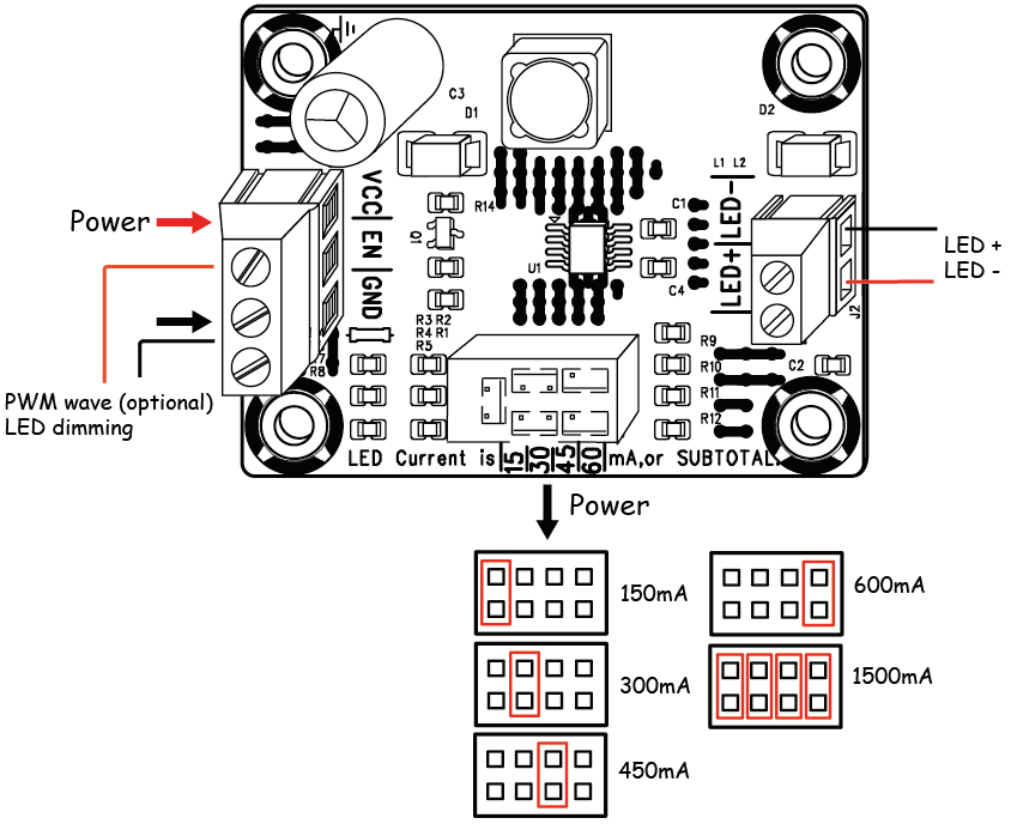
2.1 Port Definition

TABLE 2-1 PORT DEFINITION

Pin	Description
VIN	Positive terminal for 9V -48V DC Power supply
GND	Power Ground
LED+	Positive of LED terminal
LED-	Negative of LED terminal
EN	PWM terminal. When applied with ground or suspended, full amount of current will be output and when connected with +5v or VIN, output current will be 0.

2.2 Connection

FIGURE 2-1 CONNECTION SCHEMATICS



Note: Supply voltage range is9 – 48V.

2.3 PWM Control Settings

Connecting the 1KHZ，0-5V output PWM wave which produced by Waveform Generator with EN and GND port. Through increasing the PWM duty cycle, the LED light dimmed.

Chapter 3. Electrical Characteristics

3.1 Specification

The typical parameters are listed in the table below.

Tested @ Vin=24V, 4 Luxeon White LEDs connected in series, tem 18℃ (unless noted otherwise)

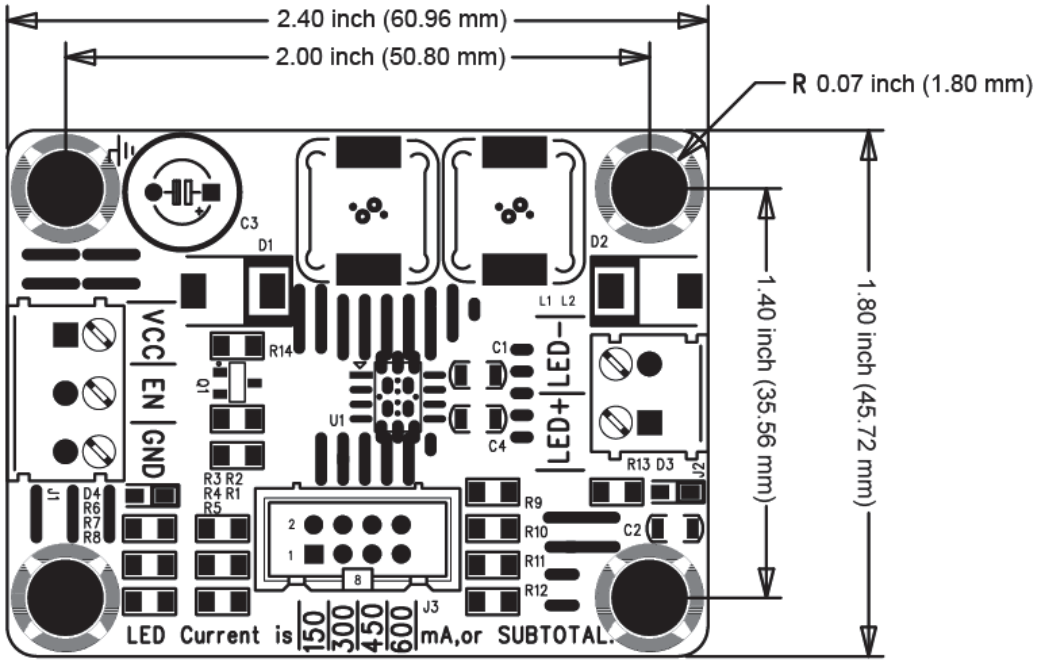
TABLE 3-1 SPECIFICATION

Parameters		Test Condition	Min.	Typ.	Max.	Unit
Supply Voltage		-	9	-	48	V
Supply Current (no load)		Vin＝9V~85V	-	2	5	mA
Output Current		Iout	150		1500	mA
Accuracy		-	-	±3	±10	%
Efficiency		Vin=24V, 4LEDs ,	-	96	-	%
Input Voltage* (EN)	High Potential	-	3.5	-	Vin	V
	Low Potential	-	-	-	0.5	V
Minimum Turn-on Time*		-		110	150	ns
Minimum Closing Time*		-		110	150	ns
Over Temperature Protection*		-	145	165	175	℃
Over Temperature Protection Hysteretic State*		-	20	25	40	℃

Note: * from Data Sheet of A6211 chip. Please refer to the relevant documents for the details.

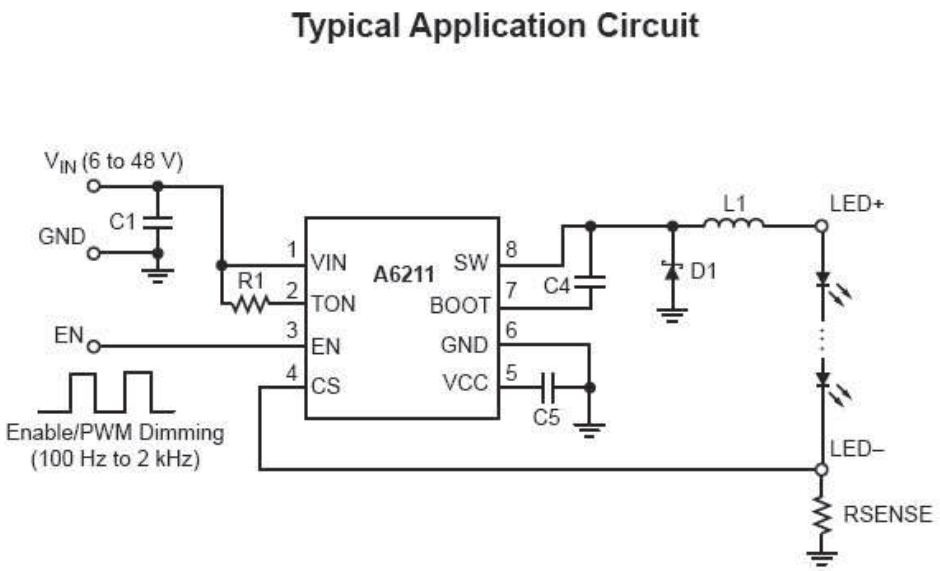
Chapter 4. Mechanical Drawing

FIGURE 4-1 MECHANICAL DRAWING



Chapter 5. Appendix

FIGURE 5-1 SCHEMATICS



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