

S01401

LED Light Board

Features and Benefits

Vin Range: 2.6Vdc to 40Vdc supply

Output current set to 60mA

Button cell battery for low power

Additional LED dimming can be obtained by using a PWM signal applied to the V+ pin.

Combine multiple boards together in parallel to increase the number of LEDs and lux output.

Applications:

Retrofits for general lighting

Tea lights for ceramics

Model lighting for scale modelling

Doll house lighting

Camper lighting

Pocket light for reading in dim light areas such as restaurant menus

Nightlights



Figure 1, S01401 Battery LED Board

Description:

The S01401 LED Light Board is designed for battery powered point lighting. Its low power and small size make it ideal for DIY projects which need accent lights or fit in tight spaces. It can be used as a night light with one of our 3D printed tubes.

The board comes assembled with Red, Green, Blue or white LEDs and uses one 3V CR2032 button cell battery. This board can be ordered without the switch or button cell battery for larger projects or for use with higher voltages.

The board incorporates 3 LEDs wired in parallel and the current is regulated at a maximum of 65mA. The lux output is partially dependent on input voltage and ranges between 56 to 1850 lux.



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Selection Guide

Part Number	Vsupply	# of LED3	Available colors
S01401BL	3Vdc	3	Red, Green, Blue, and White
S01401RB	2.7-40Vdc	3	Red, Green, Blue and White

Absolute Maximum Ratings

Input Supply		Min	Typ	Max	Unit
Operating input voltage	Both Boards	2.7	-	40	V
Isupply	Both Boards	5.1	20	60	mA

Note: Supply current is dependent on dc voltage applied (20mA @ 3Vdc, 60mA @ 11Vdc).

Terminal Diagrams

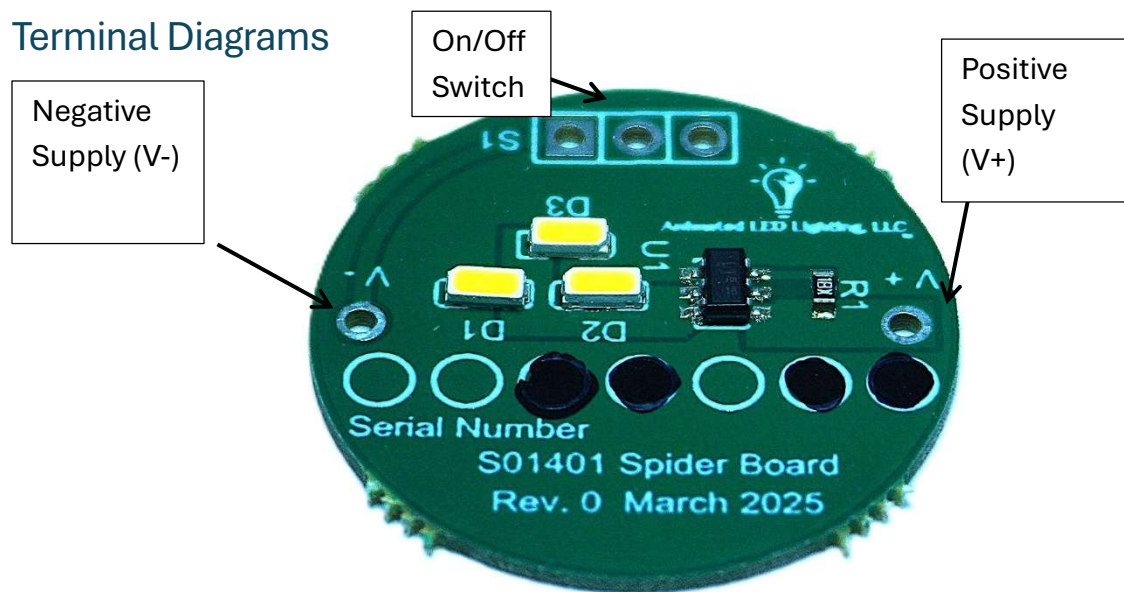


Figure 2, Connections of the S01401 board



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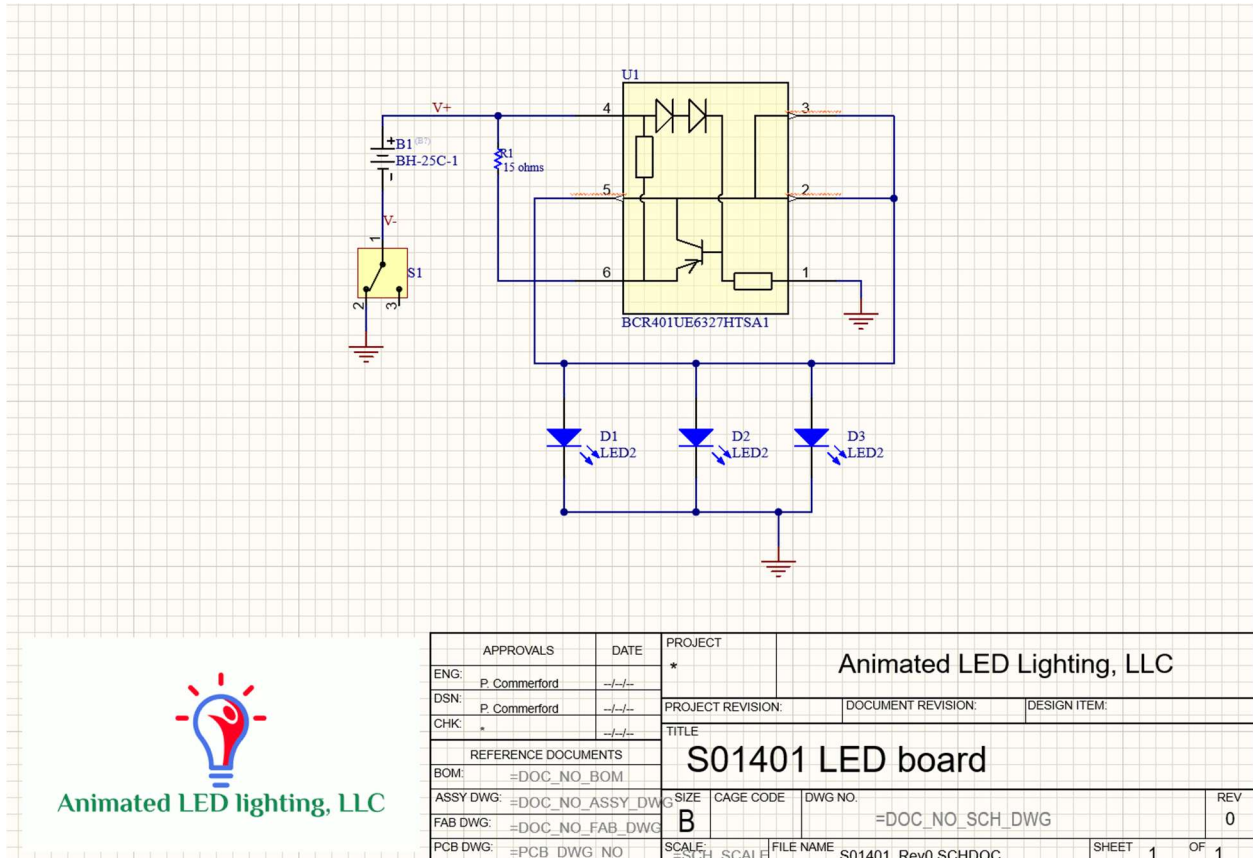


Figure 3, S01401 Schematic Rev 0

Functional Description

The S01401 LED board is based on the Infineon LED driver BCR401EU6327HTSA. Please see the datasheet for more specific details.

The S01401 LED board accepts an input voltage of +2.7V to +40V dc and regulates the output current to a maximum of 65mA. The output current is shared between the three LEDs on the output pins which are connected in parallel.



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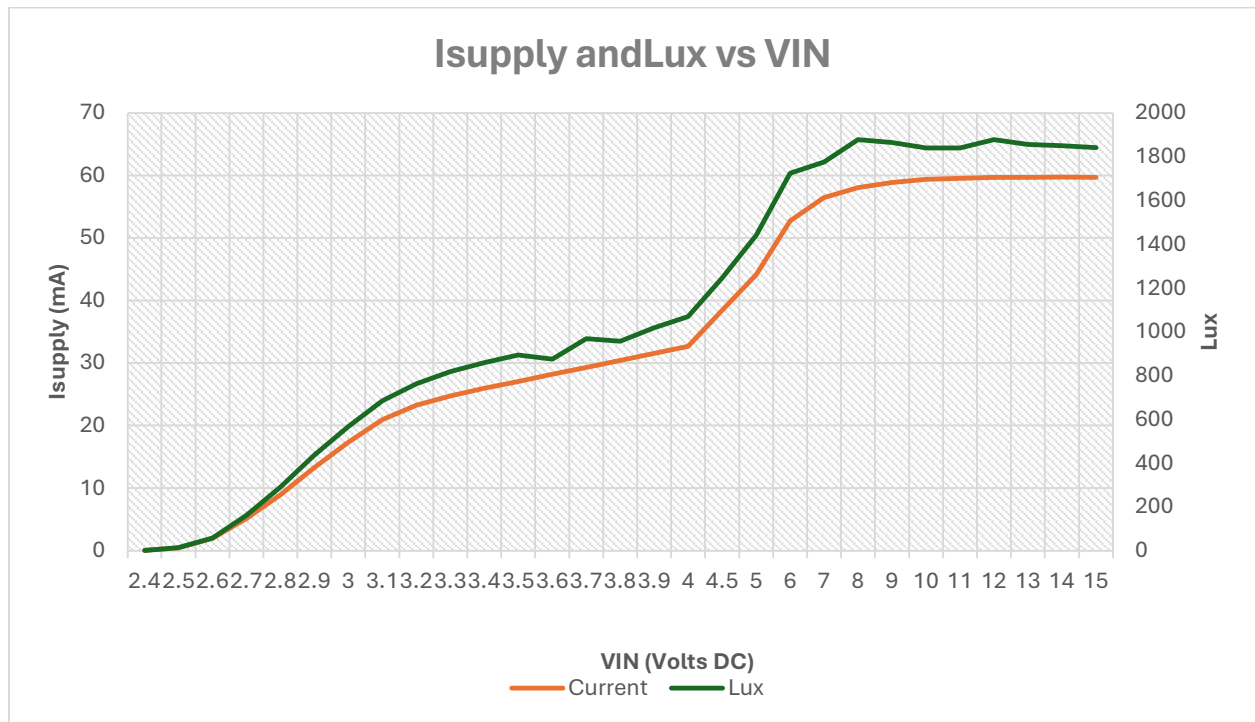


Figure 4, Current and Lux are directly related to input voltage

Creative applications

Using the S01401 board on individual battery power, various lighting elements can be achieved for DIY projects, such as inserting the S01401 board into the cap of a water bottle.



Figure 5, Lab testing creative lighting in an empty water bottle.



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Another useful application could be to insert this board into one of our Lighting Diffusers. This can act like a night light and diffusers can be created with various designs so various images can be cast on nearby walls.



Figure 6, Lab testing the raw board inside a light diffuser with diamond holes



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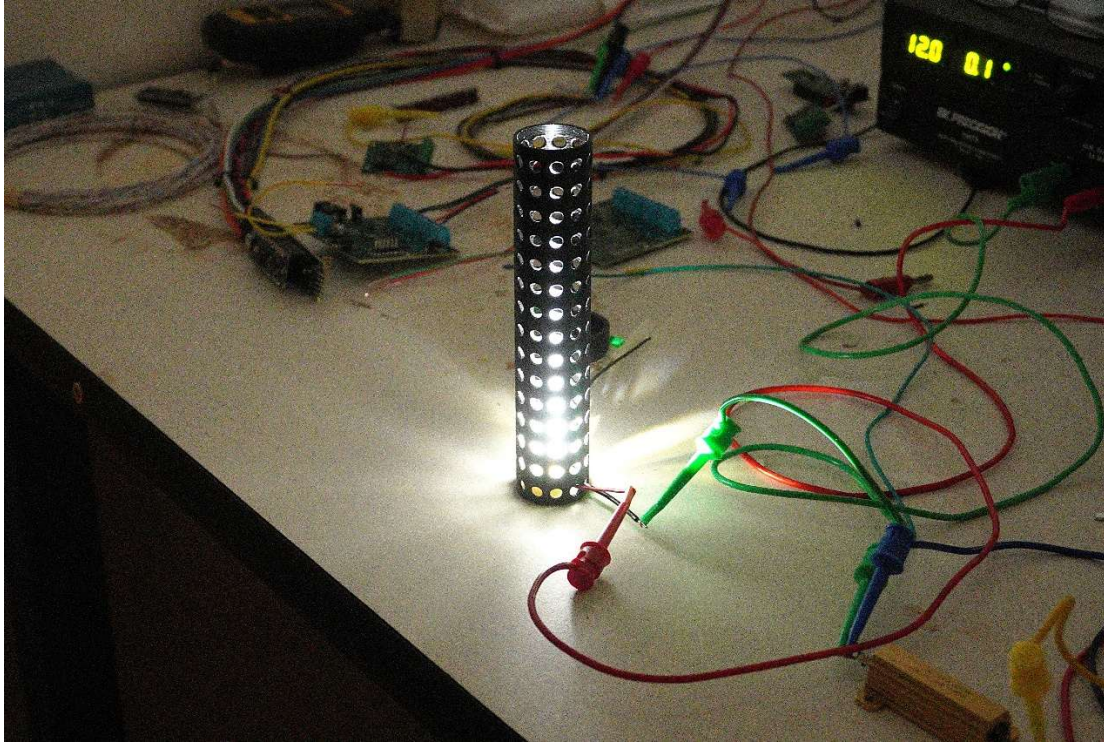


Figure 7, Lab testing the raw board inside a light diffuser with round holes

The S01401 is designed to help illuminate DIY projects. Boards can be used in creative ways individually with battery power or strung together at various power levels to create larger lighting projects.

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Package Outline Drawing

Package dimensions are for reference only, slight variations in size may occur.

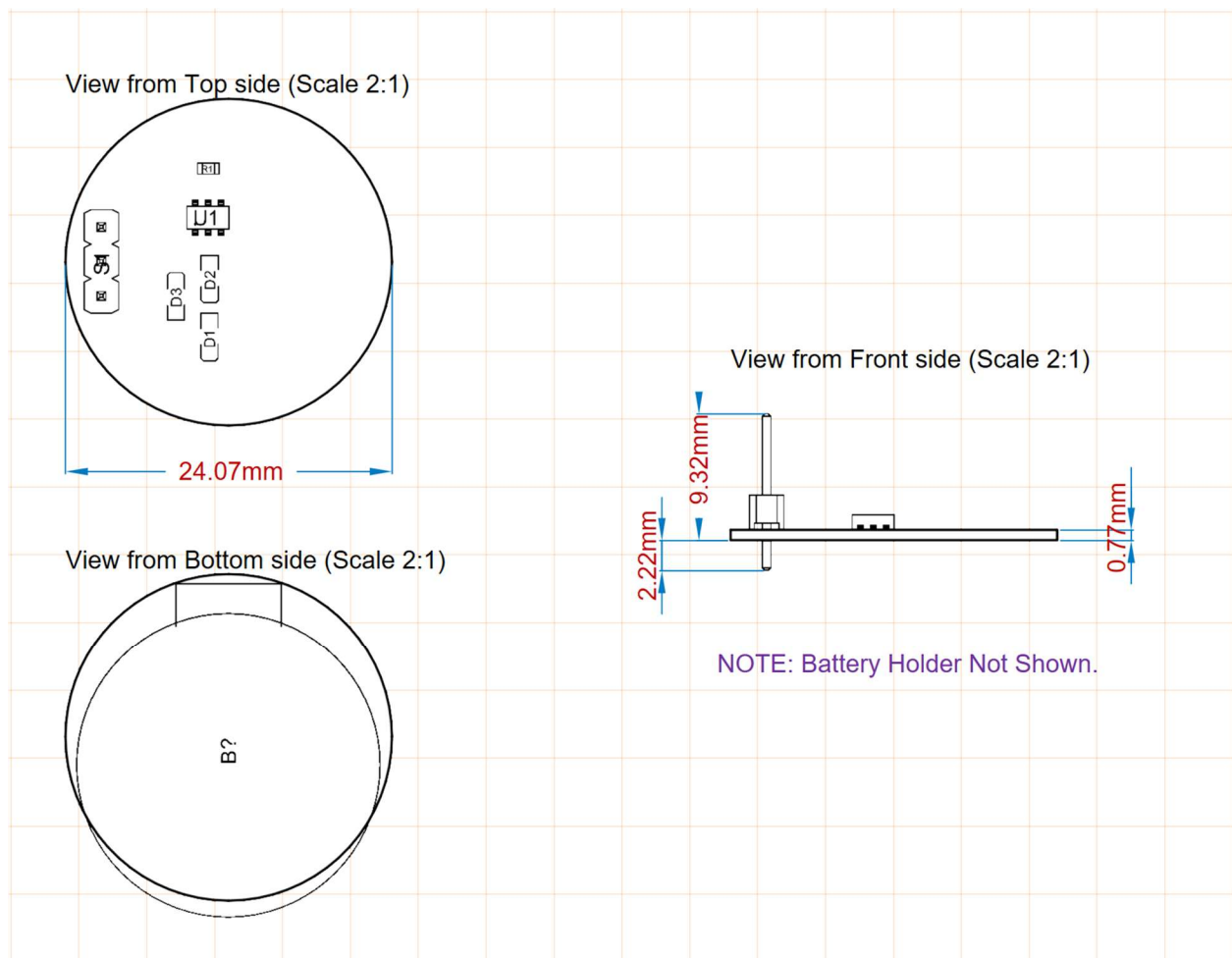


Figure 8, Package outline and Mechanical Views of S01401 (battery holder not shown)



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Revision History

Number	Date	Description
0	July 5, 2025	Initial Release
1	August 29, 2025	Update Lux vs Vin Chart