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Strata Enabled NCL30160 1A LED Driver EVB User Guide

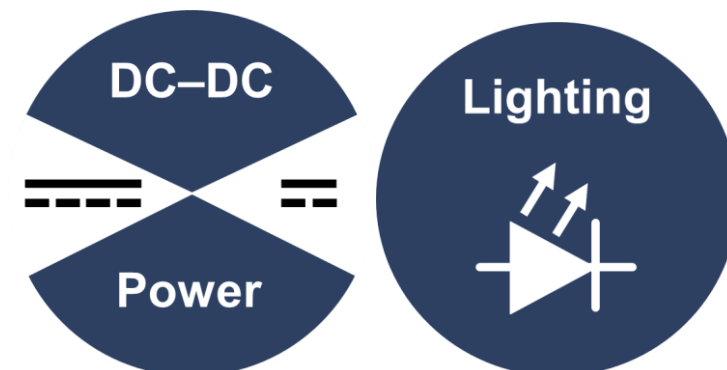


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Introduction

The Strata Enabled NCL30160 1A LED Driver EVB provides an easy to use evaluation board within the Strata Developer Studio for the NCL30160 1A LED Driver from ON Semiconductor. Through the Strata User Interface, the developer can access datasheets, BOMs, schematics, and other collateral they may need. This document will explain how to get the EVB up and running with Strata.

Device Features

- Integrated 1A/50mΩ MOSFET
- VIN Range 6.3V to 40 V
- Shorted LED Shutdown Protection
- Up to 1.4 MHz Switching Frequency
- No Control Loop Compensation Required
- Adjustable LED Current
- Single Pin Brightness and Enable/Disable Control Using PWM
- Supports All–Ceramic Output Capacitors and Capacitor–less Output
- Thermal Shutdown Protection
- Capable of 100% Duty Cycle Operation
- Pb–Free Device

Applications

- LED Driver
- Constant Current Source
- General Illumination
- Industrial Lighting

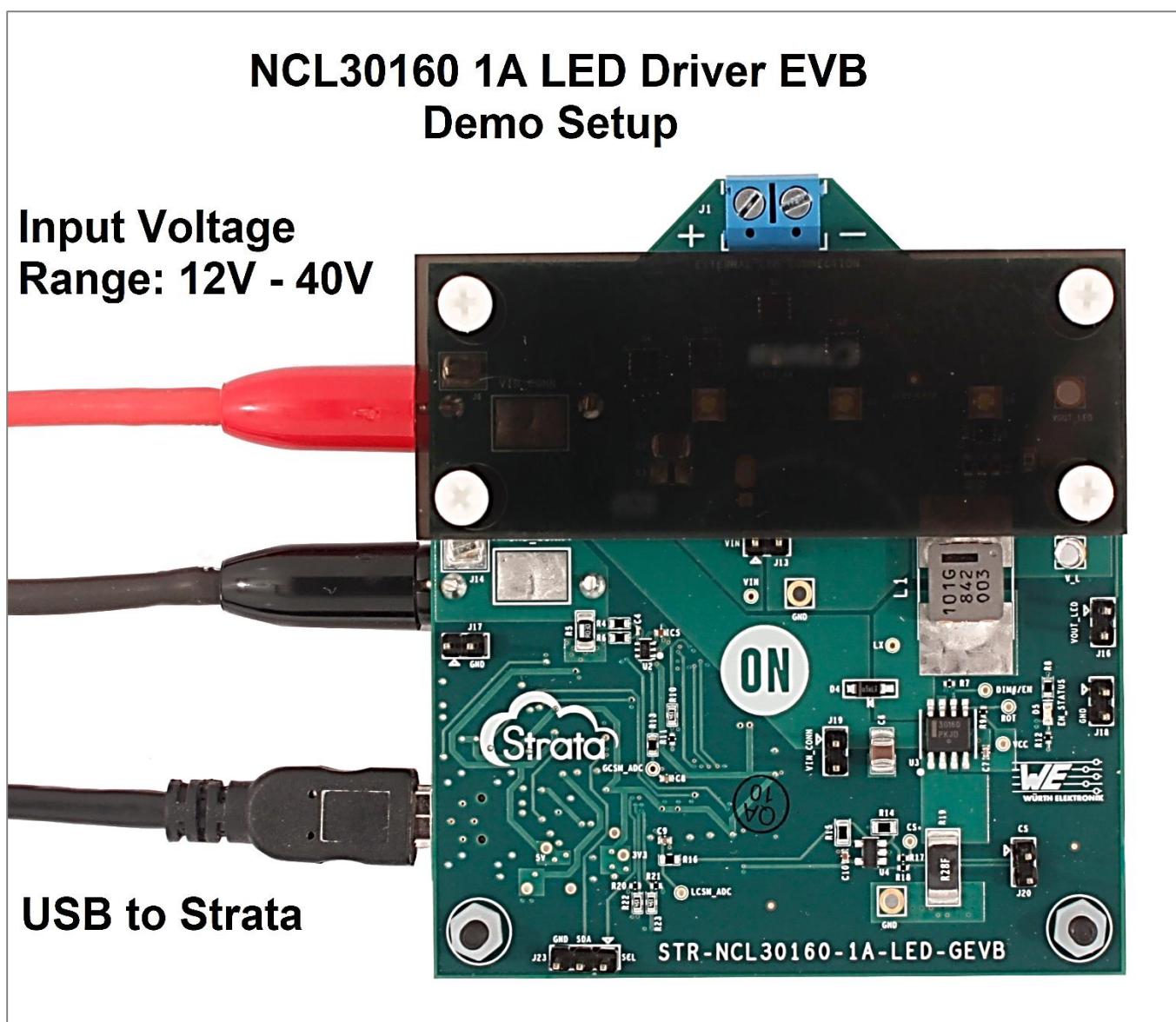
User Guide

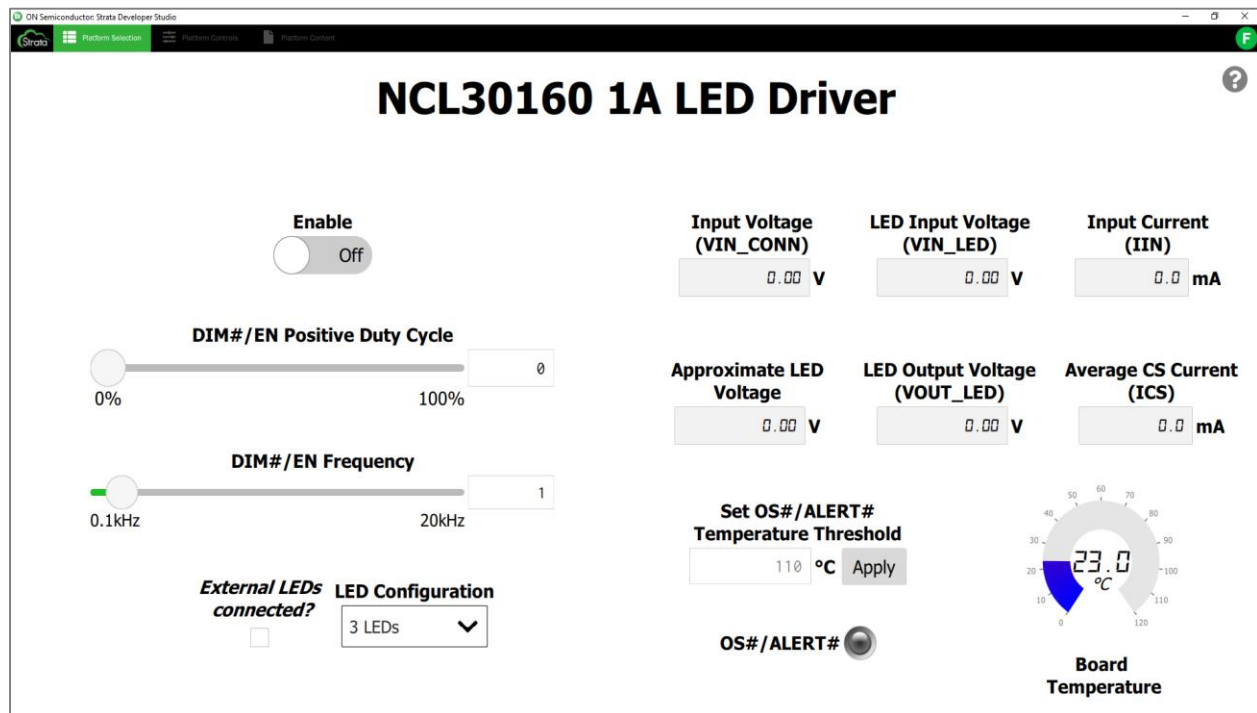
This section will explain how to use the Strata Enabled NCL30160 1A LED Driver EVB in a step by step manner and will cover both the hardware required as well as how to use the User Interface (UI) in Strata.

Hardware Setup

The hardware required for using the Strata Enabled NCL30160 1A LED Driver EVB are a computer (with Windows), and power supply (12V-40V voltage range, recommended 2A current limit). Follow the steps below.

1. Connect the computer to the EVB using the mini USB connector J31 on the bottom of the board.
2. Plug the power supply into the input of the board using the banana plugs J26 (positive terminal) and J29 (negative terminal). Do not hot plug the power cables or apply over 40V (the LED driver's absolute maximum voltage on its VIN pin) to the input because this may damage circuitry on the board. The recommended input voltage range is 12V to 40V for normal operation.
3. A picture of the setup can be found below. The red power cable denotes positive polarity with respect to the black power cable.





4. If external LEDs are connected, make sure to check the “External LEDs Connected” checkbox in the UI before enabling the device. Access to the onboard LEDs is restricted when this box is checked. To switch to using onboard LEDs, disable the device using the “Enable” switch, turn off the input power to the board, disconnect the external LEDs, reapply input power, uncheck the “External LEDs Connected” checkbox, select your desired onboard LED configuration, and re-enable the device. Access to the external LED option is restricted when the onboard LEDs are being used unless the “External LEDs Connected” checkbox is checked again.
5. The round button with a question mark in the top right corner is the Help button, and it will show the user what everything on the UI is doing.
6. To look at the collateral provided with the EVB, click on the “Platform Content” tab at the top of the screen.

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