

Integrated LED Driver Improves System Efficiency



ON Semiconductor, a premier supplier of silicon solutions for green electronics, announced an offline LED driver that integrates power factor correction (PFC) and isolated step-down AC-DC power conversion in a single stage. By eliminating the need for a dedicated PFC boost stage, the [NCL30001](#) [1] offers a reduced component count, lower cost solution that supports higher overall system efficiency in LED power supplies for applications such as LED-based street, low bay, wall packs, and architectural lighting.

Ideal for designs with power requirements of between 40 W and 150 W, the NCL30001 is designed to operate in continuous conduction mode (CCM) and can be configured as either a constant current or fixed output voltage driver. With an adjustable operating frequency of 20 kHz to 250 kHz and a multi-function latch-off pin able to implement an overtemperature shutdown circuit, the SOIC-16 packaged controller offers circuit designers a high degree of flexibility.

Further features of the NCL30001 controller's specification include a high voltage start-up circuit, voltage feedforward to improve loop response, a brownout detector, internal overload timer, latch input and a high accuracy multiplier to reduce input line harmonics. An isolated single stage power factor corrected LED Driver evaluation board is available for this device that is intended for applications ranging from 40 W - 100 W that require a direct constant current output, The current is adjustable from 0.7 A to 1.5 A. to support a wider range of high power high brightness LEDs. .

“With growth in the popularity and the rapidly increasing number of LED-based lighting designs on the market, the need for highly efficient, cost effective, integrated system management devices is greater than ever,” said Christophe Warin, AC-DC Business Unit Manager, ON Semiconductor. “The NCL30001 meets

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these requirements in full, and provides engineers with a flexible single-stage topology LED driver ideal for use in their new LED lighting products. This device is a strong example of the targeted lighting solutions ON Semiconductor is developing to meet our customers' needs." The NCL30001 is available in a 16 lead SOIC package and priced at \$1.05 per unit in 10,000 unit quantities.

For more information, please visit <http://www.onsemi.com> [2].

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