



## **60V, Synchronous 4-Switch Buck-Boost LED Driver with Spread Spectrum**

MILPITAS, CA – April 6, 2016 – Linear Technology announces the [LT8391](#), a synchronous buck-boost DC/DC LED controller that regulates LED current from input voltages above, below and equal to the output voltage. Its 4V to 60V input voltage range makes it ideal for a wide variety of applications, including automotive, industrial and architectural lighting. Similarly, its output voltage can be set from 0V to 60V, enabling it to drive a wide range of LEDs in a single string. Its internal 4-switch buck-boost controller, combined with four external N-channel MOSFETs, can deliver from 10W to over 100W of LED power. Its buck-boost capability makes it well suited for applications such as automotive, where the input voltage can vary dramatically during stop/start, cold crank and load dump scenarios. Transitions between buck, pass-through and boost operating modes are seamless, offering a well regulated output in spite of wide variations of supply voltage. The LT8391 provides both internal (128:1) and external (2,000:1) LED current PWM dimming using an external high side PMOS switch. It is offered in either a 28-lead 4mm x 5mm QFN or thermally enhanced TSSOP to provide a very compact solution footprint.

The LT8391 uses four external N-channel MOSFETs to deliver up to 100W of continuous LED power with efficiencies up to 98%. LED current accuracy of  $\pm 3\%$  ensures constant lighting. The proprietary peak-buck, peak-boost current mode control scheme allows adjustable and synchronizable 150kHz to 650kHz fixed frequency operation or internal spread spectrum operation for low EMI. Additional features include integrated bootstrap diodes and open and short LED protection with fault reporting.

The LT8391EFE is available in 28-lead thermally enhanced TSSOP package, and the LT8391EUFD is offered in a 28-lead 4mm x 5mm QFN package. Industrial grade versions, the LT8391IFE and LT8391IUFD, are also available. Pricing starts at \$4.65 each in 1,000-piece quantities. All versions are available from stock. For more information, visit [www.linear.com/product/LT8391](http://www.linear.com/product/LT8391).

**Photo Caption:** 60V Input/Output Capable, Synchronous Buck-Boost LED Driver Delivers over 100W of LED Power


### Summary of Features: LT8391

- 4-Switch Single Inductor Architecture Allows  $V_{IN}$  Above, Below or Equal to  $V_{OUT}$
- Synchronous Switching: Up to 98% Efficiency
- Proprietary Peak-Buck Peak-Boost Current Mode
- Wide  $V_{IN}$  Range: 4V to 60V
- Wide  $V_{OUT}$  Range: 0V to 60V (51V LED)
- $\pm 3\%$  LED Current Accuracy
- 2000:1 External & 128:1 Internal PWM Dimming
- High Side PMOS PWM Switch Driver
- Integrated Bootstrap Diodes
- No Top MOSFET Refresh Noise in Buck or Boost
- Adjustable & Synchronizable: 150kHz to 650kHz
- Flicker-Free Spread Spectrum for Low EMI
- Open & Short LED Protection with Fault Reporting
- Available in 28-Lead TSSOP with Exposed Pad & 28-Lead QFN 4mm  $\times$  5mm Packages

Pricing shown is for budgetary use only and may differ due to local duties, taxes, fees and exchange rates.

### About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs,  $\mu$ Module<sup>®</sup> subsystems, and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

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