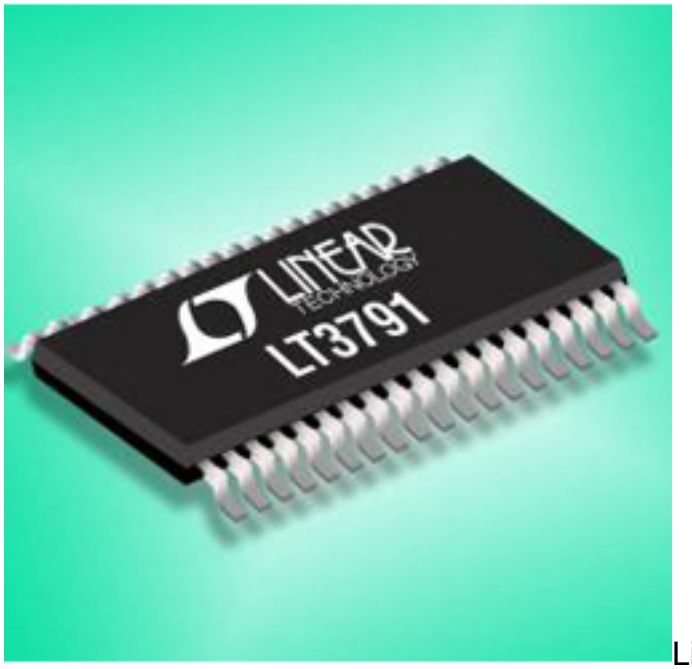
60V synchronous buck-boost LED driver delivers over 100W of LED power



Linear Technology announces the LT3791, a synchronous buck-boost DC/DC LED driver and voltage controller, which can deliver over 100W of LED power. Its 4.7V 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 the LT3791 to drive a wide range of LEDs in a single string. Its internal 4-switch buck-boost controller operates from input voltages above, below or equal to the output voltage, ideal 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 even with wide variations of supply voltage. The LT3791's unique design utilizes three control loops to monitor input current, LED current and output voltage to deliver optimal performance and reliability.

The LT3791 uses four external switching MOSFETs and delivers from 5W to over 100W of continuous LED power with efficiencies up to 98.5%. LED current accuracy of ±6% ensures constant lighting while ±2% output voltage accuracy enables the converter to operate as a constant voltage source. The LT3791 utilizes either analog or PWM dimming as required by the application. Furthermore, its switching frequency can be programmed between 200kHz and 700kHz or synchronized to an external clock. Additional features include output disconnect, input and output current monitors, open and shorted LED detection and integrated fault protection.

The LT3791EFE is available in 38-lead thermally enhanced TSSOP package, priced starting at $4.75 each in 1,000-piece quantities. An extended temperature version, or I grade, the LT3791IFE, is also available, priced starting at $5.25 each in

1,000-piece quantities. A high temperature version, or H grade, the LT3791HFE, is also available, priced starting at $5.50 each in 1,000-piece quantities. There is also a high reliability MP grade version, LT3791MPFE, available starting at $14.75 each in 1,000-piece quantities. All versions are available from stock. For more information, visit www.linear.com/product/LT3791 [1].

For more information, visit www.linear.com [2]

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[1] http://www.linear.com/product/LT3791
[2] http://www.linear.com