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60V, High Side Sense LED Controller for Boost, Buck or Buck-Boost High Current LED Applications

MILPITAS, CA – June 9, 2008 – Linear Technology announces the LT3755, a 60V, high-side current sense DC/DC converter designed to drive high current LEDs. Its 4.5V to 40V input voltage range makes it ideal for a wide variety of applications, including automotive, industrial and architectural lighting. The LT3755 uses an external N-channel MOSFET and can drive up to 14 1A white LEDs from a nominal 12V input, delivering in excess of 50 watts. It incorporates a high-side current sense, enabling it to be used in boost, buck, buck-boost or SEPIC and flyback topologies. The LT3755 can deliver efficiencies of over 94% in boost mode, eliminating any need for external heat sinking. A frequency adjust pin permits the user to program the frequency between 100kHz and 1MHz, optimizing efficiency while minimizing external component size and cost. Combined with a 3mm x 3mm QFN package, the LT3755 offers a very compact 50 watt LED driver solution.

The LT3755 uses True Color PWM[™] dimming, which delivers constant LED color with dimming ranges of up to 3,000:1. For less demanding dimming requirements, the CTRL pin can be used to offer a 10:1 analog dimming range. Its fixed frequency, current mode architecture offers stable operation over a wide range of supply and output voltages. A ground referenced voltage FB pin serves as the input for several LED protection features, making it possible for the converter to operate as a constant-voltage source.

Two versions of the LT3755 are available -- the standard LT3755, which offers an Open LED Status pin, and the LT3755-1, which replaces the Open LED Status pin with a frequency synchronization pin.

Both the LT3755EUD and LT3755EUD-1 are available from stock in a 16-pin 3mm x 3mm QFN package. Pricing starts at \$2.75 each for both versions in 1,000-piece quantities. Extended temperature versions, or "I" grades, namely the LT3755IUD and LT3755IUD-1, are also available from stock. Pricing starts at \$3.15 each, respectively, in 1,000-piece quantities.


Photo Caption: Full-Featured LED Controller Delivers over 50 Watts of LED Power

Summary of Features: LT3755/-1

- 3,000:1 True Color PWM Dimming
- Wide Input Voltage Range: 4.5V to 40V
- Output Voltage Up to 60V
- Constant-Current and Constant-Voltage Regulation
- 100mV High Side Current Sense
- Drives LEDs in Boost, Buck Mode, Buck-Boost Mode, SEPIC or Flyback Topology
- Adjustable Frequency: 100kHz to 1MHz
- Programmable Undervoltage Lockout with Hysteresis
- Open LED Status Pin (LT3755)
- Frequency Synchronization (LT3755-1)
- PWM Disconnect Switch Driver
- CTRL Pin Provides Analog Dimming
- Low Shutdown Current: <1uA
- Programmable Soft-Start
- Thermally Enhanced 16-Lead QFN (3mm × 3mm) Package

About Linear Technology

Linear Technology Corporation, a manufacturer of high performance linear integrated circuits, was founded in 1981, became a public company in 1986 and joined the S&P 500 index of major public companies in 2000. Linear Technology products include high performance amplifiers, comparators, voltage references, monolithic filters, linear regulators, DC-DC converters, battery chargers, data converters, communications interface circuits, RF signal conditioning circuits, uModule™ products, and many other analog functions. Applications for Linear Technology's high performance circuits include telecommunications, cellular telephones, networking products such as optical switches, notebook and desktop computers, computer peripherals, video/multimedia, industrial instrumentation, security monitoring devices, high-end consumer products such as digital cameras and MP3 players, complex medical devices, automotive electronics, factory automation, process control, and military and space systems. For more information, visit www.linear.com.

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