



60V, LED Controller with Internal PWM Generator for Boost, Buck or Buck-Boost High Current LED Applications

MILPITAS, CA – December 3, 2012 – Linear Technology announces the [LT3761](#), a 60V DC/DC controller designed to operate as a constant-current source and constant-voltage regulator. Its internal PWM dimming generator makes it ideal for driving high current LEDs, but it also has features making it suitable for charging batteries and supercapacitors. The LT3761's 4.5V to 60V input voltage range makes it ideal for a wide variety of applications, including automotive, industrial and architectural lighting. The LT3761 uses an external N-channel MOSFET and can drive up to fifteen 1A white LEDs from a nominal 12V input, delivering in excess of 50 watts. It incorporates a high-side current sense, enabling its use in boost mode, buck mode, buck-boost mode or SEPIC topologies. The LT3761 can deliver efficiencies of over 94% in the boost topology, eliminating the 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 thermally enhanced MSOP-16 package, the LT3761 offers a very compact high power LED driver solution.

The LT3761 has an internal PWM generator that delivers dimming ratios as high as 50:1 or it can utilize an external PWM signal, delivering dimming ratios 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. Output short-circuit protection and open LED protection enhance

system reliability. The LT3761's ground-referenced voltage FB pin serves as the input for several LED protection features and also makes it possible for the converter to operate as a constant-voltage source for charging applications.

The LT3761EMSE is available in a thermally enhanced MSOP-16 package. Pricing starts at \$3.45 each. An extended temperature version, or I grade, the LT3761IMSE, is also available, priced starting at \$3.86 each. Finally a high temperature or H grade option, the LT3761HMSE is also available, starting at \$4.11 each. All pricing is based on 1,000-piece quantities and all versions are available from stock. For more information, visit www.linear.com/product/LT3761


Photo Caption: 80V, LED Controller with Internal PWM Generator

Summary of Features: LT3761

- 3,000:1 True Color PWM™ Dimming for LEDs
- Wide V_{IN} Range: 4.5V to 60V
- Rail-to-Rail Current Sense Range: 0V to 80V
- Programmable PWM Dimming Signal Generator
- Constant Current ($\pm 3\%$) & Constant-Voltage ($\pm 2\%$) Regulation
- Analog Dimming
- Drives LEDs in Boost, SEPIC, Inverting, Buck Mode, Buck-Boost Mode, or Flyback Configuration
- Output Short-Circuit Protected Boost
- Open LED Protection & Reporting
- Adjustable Switching Frequency: 100kHz to 1MHz
- Programmable V_{IN} UVLO with Hysteresis
- C/10 Indication for Battery Chargers
- Low Shutdown Current: $< 1\mu A$
- Thermally Enhanced 16-Lead MSOP Package

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 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, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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