



## **110V LED Controller with Spread Spectrum Frequency Modulation & Robust Short-Circuit Protection**

MILPITAS, CA – September 19, 2013 – Linear Technology announces the [LT3795](#), a 110V, high-side current sense DC/DC converter designed to regulate a current or voltage to a constant value, ideal for driving high brightness (HB) LEDs. Its 4.5V to 110V input voltage range makes it appropriate for a wide variety of applications, including automotive, industrial and architectural lighting. The LT3795 uses an external low side N-channel MOSFET and can drive up to 90V of white LEDs from a nominal 12V input, delivering in excess of 50 watts. Spread spectrum frequency modulation reduces EMI emissions, while an internal PMOS switch driver delivers robust short-circuit protection in boost and buck-boost topologies. The LT3795 incorporates a high-side current sense, enabling it to be used in boost, buck, buck-boost or SEPIC topologies. Additionally it offers current both input and output current limiting and monitoring for added reliability and design flexibility. The LT3795 can deliver efficiencies of over 94% in boost mode, minimizing 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 TSSOP-28 package, the LT3795 offers a very compact HB LED driver or charger solution.

The LT3795 uses 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. Robust open and short-circuit protection maximize overall system reliability, while C/10 detection optimizes both battery and SuperCap charging designs. Additional features include input and output current reporting, frequency synchronization, programmable UVLO and a programmable fault restart timer.

The LT3795EFE is available in a thermally enhanced TSSOP-28 package. Pricing starts at \$3.45 each. An extended temperature version or I grade, the LT3795IFE, is also available with pricing starting at \$3.86 each. Finally, a high temperature, or H grade, the LT3795HFE is available, the pricing starts at \$4.11 each. All prices are in 1,000-piece quantities and all versions are available from stock. For more information, visit [www.linear.com/product/LT3795](http://www.linear.com/product/LT3795)


**Photo Caption:** 110V LED Controller with Spread Spectrum Frequency Modulation

### Summary of Features: LT3795

- 3000:1 True Color PWM™ Dimming
- Wide Input Voltage Range: 4.5V to 110V
- Input & Output Current Reporting
- PMOS Switch Driver for PWM & Output Disconnect
- Internal Spread Spectrum Frequency Modulation
- ±2% Constant Voltage Regulation
- ±3% Constant Current Regulation:  $0V \leq V_{OUT} \leq 110V$
- Programmable Input Current limit
- CTRL Inputs Linearly Adjust LED Current
- Adjustable Frequency: 100kHz to 1MHz
- Programmable Open LED Protection with OPENLED Flag
- Short-Circuit Protection & SHORTLED Flag
- Programmable Undervoltage Lockout with Hysteresis
- Soft-Start with Programmable Fault Restart Timer
- C/10 Detection for Battery Charging
- Available in 28-Lead TSSOP 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 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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