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45V, 750mA LED Driver for Boost, Buck or Buck-Boost High Current LED Applications

MILPITAS, CA – September 16, 2009 – Linear Technology announces the LT3519, a 45V, high side current sense DC/DC converter designed to drive high current LEDs. The LT3519's 3V to 40V input voltage range makes it ideal for applications such as automotive and industrial lighting. The combination of an internal 45V, 750mA switch, Schottky diode and internal compensation provides a highly compact LED driver solution.

The LT3519 can drive up to ten 100mA white LEDs from a 12V input, making it ideal for a variety of applications such as automotive and industrial lighting. It can deliver efficiencies up to 90% in boost mode from a compact MSOP-16E package. The LT3519 utilizes True Color PWM™ dimming to deliver constant LED color with ranges of more than 3,000:1. For less demanding dimming requirements, the CTRL pin can be used to offer 10:1 analog dimming. The device's fixed frequency, constant current, constant voltage regulation provides stable operation over a wide range of supply and output voltages, while ensuring uniform brightness of LEDs. There are three switching frequency options available: the LT3519, which switches at 400kHz; the LT3519-1, which switches at 1MHz; and the LT3519-2, offering a 2.2MHz switching frequency, enabling designers to optimize efficiency while minimizing external component size.

The LT3519 senses output current at the high side of the LED, enabling buck, buck-boost or boost configurations. Combining a traditional voltage feedback and unique floating current sense feedback, these converters can operate as constant voltage or constant current source, offering maximum design flexibility. Other features include open LED protection, soft-start and thermal protection.

The LT3519EMS, LT3519EMS-1 and LT3519EMS-2 are available in an MSOP-16 package and are priced starting at \$2.50 each, in 1,000-piece quantities. Extended temperature versions, or "I" grades, namely the LT3519IMS, LT3519IMS-1 and LT3519IMS-2, are tested and guaranteed to operate from a -40°C to 125°C operating junction temperature. They are priced at \$2.94 each in 1,000-piece quantities. All versions are available from stock. For more information, visit www.linear.com.


Photo Caption: 750mA, 45V Monolithic LED Driver with 3000:1 True Color PWM Dimming

Summary of Features: LT3519

- Up to 3000:1 True Color PWM™ Dimming
- 3V to 40V Input Voltage Range
- Floating LED Current Sense from 0V to 45V
- 45V, 750mA Internal Switch
- Internal Schottky Diode
- Constant Current & Constant Voltage Regulation
- Boost, SEPIC, Buck-Boost Mode or Buck Mode Topology
- Open LED Protection & Open LED Status Pin
- Programmable Undervoltage Lockout with Hysteresis
- Fixed Frequency: 400kHz (LT3519), 1MHz (LT3519-1) or 2.2MHz (LT3519-2)
- Internal Compensation
- CTRL Pin Provides Analog Dimming
- Low Shutdown Current: <1uA
- 16-Lead MSOP 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.

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