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16-Channel LED Driver Drives Up to 160 50mA LEDs & Offers 5000:1 True Color PWM™ Dimming

MILPITAS, CA – October 9, 2007 – Linear Technology announces the LT3595, a 45V 2MHz DC/DC buck mode converter designed to operate as a 16-channel constant current LED driver. Each channel of the LT3595 can drive up to ten 50mA LEDs in series, enabling the LT3595 to drive up to 160 50mA LEDs while delivering efficiencies up to 92%. Its multichannel capability makes it ideal for large TFT-LCD backlighting applications. Each of the 16 channels is independently operated and can be dimmed to ratios as high as 5000:1. A 2MHz fixed frequency, current mode architecture offers stable operation over a wide range of input and output voltages while minimizing the size of the external components. Power switches, Schottky diodes and compensation components are all internal, providing a very small solution footprint while minimizing component cost. Its thermally enhanced 5mm x 9mm QFN package ensures a very compact solution footprint, driving up to 30Watts of LEDs.

The LT3595 uses 100mA, 45V internal switches. An external resistor sets the LED current for all 16 channels and dimming is then controlled for each channel using individual PWM pins. The relative current matching among the 16 drivers is 8%, ensuring uniform LED brightness. The LT3595 also enables LEDs to be disconnected in shutdown, open LED and thermal protection.

The LT3595EUHH is available from stock in a thermally enhanced 56-lead 5mm x 9mm QFN package. 1,000-piece pricing starts at \$6.95 each, with devices available from stock.


Photo Caption: 45V, 16-Channel Buck Mode LED Driver

Summary of Features: LT3595EUHH

- 4.5V to 45V Input Supply Range
- Up to 50mA LED Current per Channel
- 100mA, 45V Internal Switches
- 8% Relative LED Current Match at 20mA
- 16 Independent LED Channels
- 5000:1 True Color PWM Dimming Range
- LEDs Disconnected in Shutdown
- Internal Schottky Diodes
- Low Quiescent Current
- 2MHz Switching Frequency
- R_{SET} Pin Sets Master LED Current
- Typical Efficiency: 92%
- Open LED Detection and Thermal Protection
- 56-Pin 5mm × 9mm × 0.75mm QFN 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, 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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