



48V Buck Mode LED Driver Powers Ten 50mA LEDs from a 2mm x 2mm DFN

MILPITAS, CA – October 10, 2007 – Linear Technology announces the LT3590, a 48V, buck mode DC/DC converter designed to operate as a constant-current LED driver. An internal 55V, 80mA switch and Schottky diode enable it to drive up to ten 50mA LEDs in a single series string from a 48V input, making it ideal for industrial and LED signage applications. Series connection of the LEDs provides identical LED currents up to 50mA, resulting in uniform brightness and eliminating the need of ballast resistors. Dimming is adjusted via the CTRL pin and ratios as high as 200:1 can be attained. Its switching frequency of 850kHz enables the use of tiny inductors and ceramic capacitors while providing efficiency as high as 91%. Combined with a 2mm x 2mm DFN or SC-70 package, it offers a very compact solution for driving high current LEDs.

The LT3590 utilizes a fixed frequency current mode architecture which offers stable operation over a wide range of input and output voltages. A 200mV feedback voltage offers $\pm 5\%$ accuracy, ensuring consistent LED brightness.

The LT3590 is available from stock in either a 2mm x 2mm DFN-6 or 8-lead SC-70 package. 1,000-piece pricing starts at \$1.40 each for both versions.


Photo Caption: 48V, 50mA Buck Mode LED Driver in 2mm x 2mm DFN Package

Summary of Features: LT3590

- 4.5V to 55V Input Voltage Range
- Up to 50mA LED Current
- 80mA, 55V Switch
- Internal Schottky Diode
- 15uA Supply Current in Shutdown
- 500uA Supply Current Operating, Not Switching
- Switching Frequency: 850kHz
- 200mV Feedback Voltage with $\pm 5\%$ Accuracy
- CTRL Input Performs Dimming and Shutdown
- 91% Efficiency (10 LEDs, 50mA)
- Requires Only 1uF Output Capacitor
- 8-Lead SC70 Package
- 6-Lead 2mm x 2mm DFN 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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