



News Release | [www.linear.com](http://www.linear.com)

## **Tiny High Efficiency White LED Driver with Integrated Schottky Drives up to 10 LEDs**

MILPITAS, CA – March 6, 2007 – Linear Technology announces the LT3591, a high efficiency, constant current white LED driver packaged in a 2mm x 3mm DFN package. The LT3591 features an integrated Schottky diode on chip, eliminating both the added cost and space required by an external diode. A unique high-side LED current sense topology enables the LED cathode to be connected directly to ground, creating a single wire current source. The LT3591 is designed to drive up to 10 white LEDs from a single Li-Ion cell at efficiencies over 78%. It switches at 1MHz, allowing the use of a tiny inductor and capacitors while keeping switching noise out of critical RF frequency bands. The combination of the LT3591's high efficiency, low noise and extremely small total solution footprint makes it ideal for handheld applications requiring up to 10 white LEDs for backlighting.

The LT3591 ensures uniform LED brightness by acting as a constant current source, delivering the same current to each white LED, regardless of fluctuations in the LED's forward voltage drop, which varies with temperature, manufacturing tolerances and age. The LT3591 also utilizes True Color PWM™ dimming to offer a wide dimming range of up to 80:1. Additional features include output voltage limiting when LEDs are disconnected and  $\pm 5\%$  reference accuracy.

The LT3591 is available from stock in an 8-lead 2mm x 3mm DFN package. Pricing starts at \$1.40 each for 1,000-piece quantities.

**Photo Caption:** Tiny LED Driver with Integrated Schottky Drives up to 10 White LEDs

### **Summary of Features: LT3591**

- Drives Up to 10 White LEDs from a 3V Supply
- High-Side Sense Allows “One Wire Current Source”
- Internal Schottky Diode
- One Pin Dimming and Shutdown
- 80:1 True Color PWM Dimming Range
- 42V Open LED Protection
- 1MHz Switching Frequency
- $\pm 5\%$  Reference Accuracy
- $V_{IN}$  Range: 2.5V to 12V
- Low Profile 8-Lead DFN Package (3mm x 2mm x 0.75mm)

### **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](http://www.linear.com)

LT, LTC, LTM, Burst Mode and  are registered trademarks of Linear Technology Corp.

### **Press Contacts:**

John Hamburger, Director Marketing Communications  
[jhamburger@linear.com](mailto:jhamburger@linear.com)  
Tel 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager  
[ddickinson@linear.com](mailto:ddickinson@linear.com)  
408-432-1900 ext 2233