Universal LED Driver Features 360mA Output Current, Independent Control Of 18 LEDs with Low Noise and up to 91% Efficiency

MILPITAS, CA – January 15, 2008 – Linear Technology Corporation announces the LTC3220/-1, an inductorless, low noise, high efficiency LED driver for cell phone displays and other programmable lighting applications. The IC provides 18 individually configurable LED current sources for complete flexibility in programming multiple displays. The display currents are set via a precision internal current reference. The universal current sources can be digitally controlled with independent dimming, brightness, blinking, and gradation control, programmable via a simple two-wire I^2C serial interface; LTC3220 and LTC3220-1 each offer a unique I^2C address. The LTC3220/-1's 2.9V to 5.5V input voltage range has been optimized for single-cell Li-Ion/Polymer battery applications. Efficiencies when driven from a Lithium battery (3.6V nominal) reach 91%, with quiescent current as low as 500uA, maximizing battery run-time. Furthermore, slew-rate limited switching reduces conducted and radiated noise (EMI).

The LTC3220/-1's multimode charge pump features low-noise constant-frequency operation, automatically optimizing efficiency based on the voltages across the LED current sources. The device powers up in 1x mode and automatically switches to boost mode (1.5x) when any enabled LED current source approaches dropout; a subsequent dropout switches the device into doubler (2x) mode. Internal circuitry prevents inrush current and excessive input noise during start-up and mode switching. In addition, the device has short circuit and thermal protection.

The LTC3220/-1 is available from stock in the ultra-thin (0.55mm) 28-lead QFN (4mm x 4mm) package. The IC requires only five small capacitors for a tiny, complete LED power supply and current controller solution. Pricing starts at $2.35 each for 1,000-piece quantities.

Photo Caption: 360mA 18-LED Universal Multi-Output LED Driver

Summary of Features: LTC3220/-1

- 18x20mA Independently Configurable Universal Current Sources with 64-Step Linear Brightness Control
- Independent ON/OFF, Brightness Level, Blinking and Gradation Control for Each Current Source Using 2-Wire I^2C Interface
- Multimode 1x/1.5x/2x Low Noise Charge Pump Provides up to 91% Efficiency
- Slew Rate Limited Switching Reduces Conducted & Radiated Noise (EMI)
- Up to 360mA Total Output Current
- 2.9V to 5.5V Input Voltage Range Optimized for Li-Ion/Polymer Applications
- Internal Current Reference
- Single Reset Pin for Asynchronous Shutdown and Reset of All Data Registers
- Two I^2C Addresses are Available (LTC3220: 0011100; LTC3220-1: 0011101)
- Automatic or Forced Mode Switching
- Internal Soft-Start Limits Inrush Current
- Short Circuit/Thermal Protection
- Ultrathin (0.55mm) 4mm x 4mm QFN-28 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. For more information, visit www.linear.com.

Press Contacts:

John Hamburger, Director Marketing Communications
jhamburger@linear.com
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager
ddickinson@linear.com

Tel: 408-432-1900 ext 2233