



Inductorless Multi-Mode LED Driver Delivers 400mA in 6mm²

MILPITAS, CA – February 22, 2007 – Linear Technology Corporation announces the LTC3218, an inductorless high current white LED driver that delivers up to 400mA of LED current. Its multi-mode architecture automatically switches between 1x or 2x boost modes, monitoring the voltage across the LED current source and switching modes only when I_{LED} dropout is detected. The LTC3218 utilizes an internal high side sense resistor to regulate LED current. This enables low dropout operation and allows the device to stay in 1x mode longer, maximizing efficiency throughout the entire Li-Ion/Polymer battery operating range, thereby increasing battery run time while minimizing noise.

The LTC3218 delivers up to 400mA pulsed current for camera flash or up to 150mA continuous current for camera torch lighting applications, featuring convenient single-resistor programming capability. An ultra-low dropout current source delivers accurate current to the LED as the IC's input voltage approaches the LED forward voltage. The LTC3218 employs built-in soft-start circuitry, preventing excessive inrush current during start-up and enabling a two-second flash current time-out for LED protection. The device's inductorless charge pump architecture, high 1 MHz switching frequency, low external parts count (one flying capacitor, one programming resistor, two bypass capacitors) and compact DFN package ensure a very tiny footprint and cost-effective solution, ideal for video and flash applications in camera phones, digital cameras and other portable lighting applications. The LTC3218 requires only one wire to go to the LED, which is useful in flip phones, where the driver IC and LED reside on opposite sides of the hinge.


The LTC3218 is available from stock in a low profile (0.75mm), 2mm x 3mm 10-lead DFN package, and is rated from -40°C to +85°C. Pricing starts at \$1.44 each for 1,000-piece quantities.

Photo Caption: 400mA Single Wire Camera LED Charge Pump**Summary of Features: LTC3218**

- Multi-Mode Operation: 1x or 2x Boost Modes
- Automatic Mode Switching
- Output Current
 - Pulsed: 400mA
 - Continuous: 150mA
- Low Noise Constant Frequency Operation
- 2-Second Flash Current Timeout for LED Protection
- Automatic Soft Start
- Output Disconnect
- No Inductors
- 220mOhm Internal High Side Current Sense Resistor
- Single Resistor Programming Capability for Pulsed/Continuous Modes
- Tiny Application Circuit (All Components <1mm Profile)
- 2mm x 3mm 10-Lead 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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