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Flyback Controller Charges Any Size Capacitor

MILPITAS, CA – December 2, 2008 – Linear Technology Corporation announces the LT3751, a flyback controller designed to rapidly charge large capacitors to voltages as high as 1000V. The LT3751 drives an external N-Channel MOSFET and can charge a 1000uF capacitor to 500V in less than 1 second, making it ideal for applications such as professional photoflash systems, RF security, inventory control systems and specialized high voltage power supplies. The LT3751 can be configured for primary-side output voltage sensing without needing an optocoupler. For lower noise and tighter regulation applications, a resistor divider network from output voltage can be used to regulate the output, making it well suited for high voltage power supply requirements.

Boundary mode control minimizes transition losses and delivers up to 88% efficiency. The V_{CC} input voltage ranges from 5V to 24V, enabling it to operate from a variety of power sources and the V_{TRANS} supply voltage range is dependent upon the choice of external components with the LT3751's internal shunt regulator. A low 106mV differential current sense threshold accurately limits peak switch current. Additional features include an on-board selectable 5.6V or 10.5V powerful 2A N-channel MOSFET gate driver, a CHARGE pin which offers control to the user of initiating a new charge cycle and remote shutdown, along with undervoltage and overvoltage lockout on the V_{TRANS} and V_{CC} input voltages. The DONE pin indicates when the capacitor has reached its programmed voltage and has stopped charging.


The LT3751 is packaged in a thermally enhanced 4mm x 5mm QFN-20 package, and is offered in extended and industrial temperature ranges from -40°C to 125°C with the 1000-piece price starting at \$3.65 each.

Photo Caption: Fast High Voltage Capacitor Charger**Summary of Features: LT3751**

- Charges Any Size Capacitor
- V_{CC} Range from 5V to 24V
- High Input Supply Voltage Capable
- Easily Adjustable Output Voltage
- Configurable for Primary Side Voltage Sense
- Low Noise Output in Voltage Regulation Mode
- Selectable 5.6V or 10.5V Internal Gate Driver
- Integrate 2A Gate Driver with Rail-to-Rail Operation
- Current Mode Control
- Programmable Input Over/Undervoltage Lockout

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.

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