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## **Dual Output 2-Phase, No $R_{SENSE}^{TM}$ Synchronous Controller Operates from 2.75V Input**

MILPITAS, CA – October 23, 2006 – Linear Technology Corporation introduces the LTC3836, a dual output 2-phase, low input voltage current mode synchronous step-down switching controller. Operation from an input voltage from 2.75V to 4.5V makes the device ideal for 3.3V, single cell Li-Ion, multi-cell Alkaline or NiMH input sources. It can generate two independent output voltages as low as 0.6V, powering the latest generation of low voltage DSPs and microcontrollers.

The LTC3836 is composed of two synchronous buck regulator controllers, with on-chip high-side and low-side synchronous rectifier drivers to drive N-channel MOSFETs. It can operate at up to 95% duty cycle for low voltage drop out, extending operating time in battery-powered systems. The input ripple current is minimized by operating the controllers 180 degrees out of phase, resulting in reduced EMI and minimizing the required input capacitance. The LTC3836 uses a high-side MOSFET current-sense architecture for current limiting and overload protection eliminating the need for a sense resistor while improving efficiency. The switching frequency is programmable up to 750kHz, allowing the use of small surface mount inductors. For noise-sensitive applications, the LTC3836 can be externally synchronized up to 850kHz. In addition, the LTC3836 can be configured for pulse-skipping operation to provide high efficiency at light loads and has a tracking function that allows output voltage control during power up and power down.

The LTC3836 is offered in a 28-lead SSOP or a 28-lead 4mm x 5mm QFN package, with an operating temperature range from -40°C to 85°C. The 1,000-piece price starts at \$2.75 each.

**Photo Caption:** Dual Output, Low Input Voltage, 2-Phase, No R<sub>SENSE</sub> Synchronous Controller

## Summary of Features: LTC3836

- Dual Output, 2-Phase Operation
- Low Input Voltage 2.75V to 4.5V
- Output Voltages as Low as 0.6V
- 95% Duty Cycle
- Highly Efficient at Light Loads with Pulse Skipping Operation
- Current Mode Control
- 250kHz to 750kHz Adjustable Constant Frequency Operation
- Synchronizable up to 850kHz

## 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)

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