

LTC News for Immediate Release

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**Dual, 2-Phase No R_{SENSE} Synchronous Controller for
DDR/QDR Memory Termination in a 4mm x 4mm QFN**

MILPITAS, CA – March 14, 2005 – Linear Technology Corporation announces the LTC3776, a 2-phase, dual output synchronous step-down switching regulator controller for DDR/QDR memory termination applications. The second output of the controller (V_{TT}) regulates its output voltage to $\frac{1}{2}$ of V_{REF} (usually V_{DDQ}) while providing symmetrical source and sink output current capability. The LTC3776 operates from input range of 2.75V to 9.8V, enabling it to operate from 3.3V input rails without any external biasing. A no R_{SENSE} , constant frequency, current mode architecture eliminates the need for sense resistors while improving efficiency. Power losses and switching noise due to input capacitance ESR are minimized by operating the two controllers out of phase.

The LTC3776's switching frequency can be programmed up to 750kHz, enabling the use of small, surface mount inductors and capacitors. For noise sensitive applications, the LTC3776's switching frequency can be externally synchronized from 250kHz to 850kHz with phase-lock-loop circuitry, or spread spectrum operation can be enabled. Forced continuous operation also reduces noise and RF interference. Soft-start for V_{DDQ} is provided internally and can be extended using an external capacitor. Other features include: low dropout 100% duty cycle operation, a Power Good output voltage monitor and output over voltage protection.

The LTC3776EUF and LTC3776EGN are both available from stock in 4mm x 4mm QFN-24 and SSOP-24 packages, respectively. Pricing starts at \$3.75 each for both the LTC3776EUF and the LTC3776EGN, in 1,000-piece quantities.

(more...)

Summary of Features: LTC3776

- No Current Sense Resistors Required
- Out-of-Phase Controllers Reduce Required Input Capacitance
- V_{OUT2} Tracks $1/2 V_{REF}$
- Symmetrical Source/Sink Output Current Capability (V_{OUT2})
- Spread Spectrum Operation (When Enabled)
- Wide V_{IN} Range: 2.75V to 9.8V
- Constant Frequency Current Mode Operation
- $0.6V \pm 1.5\%$ Voltage Reference (V_{OUT1})
- Low Dropout Operation: 100% Duty Cycle
- True PLL for Frequency Locking or Adjustment

COMPANY BACKGROUND: Linear Technology Corporation was founded in 1981 as a manufacturer of high performance linear integrated circuits. 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.

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READER SERVICE: Call toll-free 1-800-4-LINEAR (for literature only), or go to the company's web site: **<http://www.linear.com>**

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