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## **Dual Output Synchronous DC/DC Controller Draws Only 170uA In Battery-Powered Systems**

MILPITAS, CA – August 17, 2009 – Linear Technology Corporation introduces the LTC3868/-1, a low quiescent current, 2-phase dual output synchronous step-down DC/DC controller. The LTC3868/-1 draws only 170uA with one output active and only 300uA when both outputs are active, making it ideal for battery-powered applications. With both outputs shut down, the LTC3868/-1 draws only 8uA. The LTC3868/-1 has an input supply range of 4V to 24V and each output can be set from 0.8V to 14V at output currents up to 20 amps. With efficiency as high as 95%, a LTC3868/-1 based DC/DC converter is well suited for powering industrial and medical devices, along with portable instruments, notebook and netbook computers.

The LTC3868/-1 operates with a user-adjustable, fixed frequency between 50kHz and 900kHz, and can be synchronized to an external clock from 75kHz to 850kHz using its phase-locked-loop (PLL). The user can select from continuous operation, pulse skipping and low ripple Burst Mode<sup>®</sup> operation during light loads. These parts also safely start up with a prebiased load by powering up and down in pulse skip mode. The LTC3868/-1's 2-phase operation reduces input capacitance requirements and its current mode architecture provides easy loop compensation and fast transient response. Both outputs have adjustable soft-start to control the turn-on time, and the output overload protection feature latches off the converter until the input voltage is recycled. The LTC3868/-1 also features a tight  $\pm 1.5\%$  reference voltage accuracy over a -40°C to 85°C operating temperature range. The LTC3868 is the fully featured part with additional functions beyond the LTC3868-1 including a clock out, phase modulation, two power good outputs and adjustable current limit.

The LTC3868 is offered in a 32-lead 5mm x 5mm QFN package and the LTC3868-1 in 28-pin SSOP or 4mm x 5mm QFN-28 packages. Pricing starts at \$2.59 in 1,000-piece quantities. For more information, visit [www.linear.com](http://www.linear.com).


**Photo Caption:** Low Quiescent Current Dual Output DC/DC Controller

**Summary of Features: LTC3868/-1**

- Low Quiescent Current of 170uA with One Output Active & 300uA with Both Outputs Active
- Shutdown Current of 8uA
- Wide Input Voltage Range: 4V to 24V
- Wide Output Voltage Range: 0.8V to 14V
- Synchronous Rectification for up to 95% Efficiency
- Selectable Low Ripple Burst Mode Operation, Pulse Skipping or Continuous Conduction Modes
- Safely starts up with Prebiased Loads
- Selectable Fixed Operating Frequency from 50kHz to 900kHz
- Synchronizable Operating Frequency from 75kHz to 850kHz with PLL
- Current Mode Control for Easy Loop Compensation & Current Sharing
- Adjustable Soft-Start
- $\pm 1.5\%$  Voltage Reference Accuracy Over  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$
- Output Overvoltage & Overcurrent Latch-Off Protection

**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,  $\mu\text{Module}^{\circledR}$  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.

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