



## **Multiphase Step-Up DC/DC Controller Delivers High Power**

MILPITAS, CA – June 25, 2008 – Linear Technology Corporation introduces the LTC3862, a 2-phase step-up (boost) DC/DC controller that delivers high output power in a compact footprint. Up to 12 power stages can be paralleled and clocked out-of-phase to minimize input and output filtering requirements. The 4V to 36V input voltage range and a wide output voltage range that is dependent on the choice of external components covers a broad range of high power boost applications. The LTC3862 can regulate a 48V at 5A output with up to 97% efficiency from an input source ranging from 12V to 36V using only two-phases. Applications include high power audio amplifiers, automotive fuel injection systems, networking and industrial power supplies.

Multiphase operation is enabled using the SYNC input, CLOCK output and PHASEMODE control pin, allowing 2-, 3-, 4-, 6- or 12-phase operation. The LTC3862 utilizes peak current mode architecture for easy loop compensation and multi-phase operation with excellent phase-to-phase current matching. The fixed operating frequency can be set with a single resistor over a 75kHz to 500kHz range or can be synchronized to an external clock using the internal phased-lock-loop over a 50kHz to 600kHz frequency range. A current sense resistor is used in each phase to provide a precise cycle-by-cycle current limit. The powerful on-board CMOS gate drivers minimize switching losses and allow the use of multiple MOSFETs in parallel for even higher current applications. Other features include an on-board 5V LDO that eliminates the need for a bias voltage to power the IC, undervoltage lockout protection, a precise RUN pin threshold with programmable hysteresis, adjustable soft-start, programmable maximum duty cycle and user-adjustable leading edge blanking.


The LTC3862 is offered in narrow SSOP-24 and 5mm x 5mm QFN-24 package. Three temperature grades are available with commercial grade operation from -40 to 85°C, an industrial range from -40°C to 125°C, and a high temp automotive range of -40°C to 150°C. The 1,000-piece price starts at \$3.29 each.

**Photo Caption:** Multiphase Step-Up DC/DC Controller**Summary of Features: LTC3862**

- Multiphase Operation – Up to 12 Phases
- High Output Power
- Wide Input Voltage Range from 4V to 36V
- Minimum External Components
- Fixed Programmable Operating Frequency from 75kHz to 500kHz
- Synchronizable with Phase-Lock-Loop (PLL) from 50kHz to 650kHz
- Peak Current Mode Control
- Programmable Maximum Duty Cycle
- Adjustable Soft-Start
- High Operating Temperature up to 150°C

**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](http://www.linear.com).

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