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## **97% Efficient, Buck-Boost DC/DC uModule Regulator Operates with up to 36V<sub>IN</sub> & 24V<sub>OUT</sub>**

MILPITAS, CA – November 12, 2007 – Linear Technology Corporation introduces the latest device in its family of DC/DC uModule™ regulator systems that can regulate an output voltage from a variable input voltage greater than, less than or equal to the output voltage. The LTM4607 is designed for higher voltage systems and operates from 4.5V<sub>IN</sub> to 36V<sub>IN</sub>, regulates an output voltage from 0.8V to 24V, and delivers output power up to 190W. The LTM4607 integrates a synchronous buck-boost DC/DC controller, four N-channel MOSFETs, input and output bypass capacitors and all compensation circuitry in a 15mm x 15mm x 2.8mm land grid array (LGA) plastic molded package. Only an inductor, feedback and sense resistors, and bulk capacitors are required to implement a very low profile, compact and high efficiency design. The LTM4607 provides a compact regulator solution for applications such as networking, industrial, automotive systems and high power battery-operated devices.

The LTM4607's on-board proprietary 4-switch synchronous MOSFET design achieves up to 92% efficiency in boost mode (V<sub>IN</sub>: 5V, V<sub>OUT</sub>: 16V, I<sub>OUT</sub>: 2.5A) and up to 97.7% efficiency in buck mode (V<sub>IN</sub>: 32V, V<sub>OUT</sub>: 20V, I<sub>OUT</sub>: 8A). Unlike other topologies such as SEPIC (Single Ended Primary Inductor Converter), which require up to 20 components and custom magnetics, the LTM4607 buck-boost uModule solution uses only 8 components and an off-the-shelf inductor. In addition, the efficiency of a comparable SEPIC circuit is only 76% to 84%. Furthermore, to reduce undesirable frequency harmonics, the LTM4607 is phase-lockable to an external clock frequency ranging from 200kHz to 400kHz. Safety features include overvoltage and foldback current protection.

The LTM4607 is offered for operation from -40°C to 85°C temperature range. 1,000-piece pricing starts at \$21.55.


**Photo Caption:** 97% Efficient, Buck-Boost DC/DC uModule Regulator Operates with up to 36V<sub>IN</sub> & 24V<sub>OUT</sub>

### Summary of Features: LTM4607

- Single Inductor Buck-Boost Architecture
- Synchronous 4-Switch Operation for High Efficiency (up to 97%)
- Wide Input Voltage Range: 4.5V to 36V
- Wide Output Voltage Range: 0.8V to 24V
- Current Mode Control
- 15mm x 15mm x 2.8mm LGA Package

### 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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