



Buck-Boost DC/DC uModule Regulator Uses Few Components & Dissipates Less than 2.4W at 60W_{OUT}

MILPITAS, CA – November 5, 2007 – Linear Technology Corporation extends its family of DC/DC uModule™ regulator systems with products that can regulate an output voltage from a variable input voltage greater than, less than or equal to the output voltage. The LTM4605 is the first device in a new family of buck-boost products and operates from 4.5V_{IN} to 20V_{IN}, regulates an output voltage from 0.8V to 16V and delivers an output power up to 150W. The LTM4605 integrates a synchronous buck-boost DC/DC controller, four N-channel MOSFETs, input and output bypass capacitors and the 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 LTM4605 provides a compact regulator solution in applications such as networking, industrial and automotive systems and high-power battery operated devices.

With the LTM4605's on-board proprietary 4-switch synchronous MOSFET design, the product achieves up to 97.3% efficiency in boost mode and up to 97.7% efficiency in buck mode (V_{IN}: 4.5V to 20V, V_{OUT}: 12V, I_{OUT}: 5A). Whereas other topologies such as SEPIC (Single Ended Primary Inductor Converter) require as many as 20 components and custom magnetics, this buck-boost uModule solution uses only eight components and an off-the-shelf inductor. In addition, the efficiency of a comparable SEPIC circuit is approximately 76% to 84%. Furthermore, to reduce undesirable frequency harmonics, the LTM4605 is phase-lockable to an external clock frequency ranging from 200kHz to 400kHz. Safety features include overvoltage and foldback current protection.

The LTM4605 is offered for operation from -40°C to 85°C temperature range. 1,000-piece pricing starts at \$18.85 each.


Photo Caption: Simplest High Power Buck-Boost DC/DC Solution

Summary of Features: LTM4605

- Single Inductor Buck-Boost Architecture
- Synchronous 4-Switch Operation for High Efficiency (up to 98%)
- Wide Input Voltage Range: 4.5V to 20V
- Wide Output Voltage Range: 0.8V to 16V
- 1% Set Point Output Voltage Accuracy
- 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

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