



Convert Any Input Voltage from 2.8V to 80V into a Fixed Output Voltage or Output Current with Up to 98% Efficiency at 250W

MILPITAS, CA – February 11, 2013 – Linear Technology Corporation announces the [LT8705](#), a very high efficiency (up to 98%) synchronous buck-boost DC/DC controller that operates from input voltages above, below or equal to the regulated output voltage. This device has four feedback loops to regulate the input current/voltage, along with the output current/voltage. The input current and voltage feedback loops can prevent overloading of solar cells. The output current loop provides a regulated output current for a battery charger or current source. The LT8705 can be used in a wide range of applications such as a voltage stabilizer in telecom and automotive requirements, as well as in solar or high impedance sources and battery systems.

The LT8705 operates over a wide 2.8V to 80V input voltage range and produces a 1.3V to 80V output, using a single inductor with 4-switch synchronous rectification. Output power up to 250W can be delivered with a single device. Higher output power can be achieved when multiple circuits are paralleled. The operating frequency is selectable between 100kHz and 400kHz, and can be synchronized to an external clock. The LT8705 employs a proprietary current-mode control architecture for constant frequency operation in buck or boost mode and has powerful onboard quad N-channel MOSFET gate drivers. The user can select among forced continuous, discontinuous and Burst Mode[®] operation to maximize light load efficiency.

Additional features include servo pins to indicate which feedback loops are active, a 3.3V/12mA LDO, adjustable soft-start, onboard die temperature monitor and $\pm 1\%$ reference voltage accuracy over an operating junction temperature range of -40°C to 125°C . The LT8705 is available in a 38-pin 5mm x 7mm QFN, and also a 38-lead TSSOP package with additional pin spacing for high voltage operation. Pricing starts at \$5.95 each in 1,000-piece quantities. For more information, visit www.linear.com/product/LT8705.


Photo Caption: 80V Buck-Boost DC/DC Controller

Summary of Features: LT8705

- Single Inductor Architecture
- Operation with Input Voltages Above, Below or Equal to the Output Voltage
- 2.8V to 80V Input Voltage Range
- 1.3V to 80V Output Voltage Range
- Four Regulation Loops (Input V/I & Output V/I)
- Synchronous Rectification
- Up to 98% Efficiency
- On Chip Quad MOSFET Gate Drivers
- 250 Watts Output Power Capable with a Single Device
- Fixed Synchronizable Operating Frequency from 100kHz to 400kHz
- Servo Pins Indicating which Feedback Pins are Active
- 3.3V/12mA Onboard LDO
- Adjustable Soft Start
- $\pm 1\%$ Reference Voltage Accuracy over -40°C to $+125^{\circ}\text{C}$
- 38-Pin 5mm x 7mm QFN & TSSOP Package with Additional Pin Spacing

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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