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400mA, 2.25MHz Synchronous Step-Down DC/DC Converter with Dual 150mA LDOs in a 2mm x 3mm DFN

MILPITAS, CA – March 13, 2008 – Linear Technology announces the LTC3670, a 400mA, 2.25 MHz, synchronous buck regulator and two 150mA LDOs packaged in a 2mm x 3mm DFN. The LTC3670's switching regulator and both LDOs are adjustable down to 0.8V, offering a very compact triple output converter for handheld applications. Its input voltage range of 2.5V to 5.5V makes it ideal for single cell Li-Ion powered applications. The adjustable outputs are ideal for powering I/O, memory and core voltages of the latest DSPs and microcontrollers while each channel offers an independent enable pin. The buck regulator's 2.25MHz switching frequency enables the utilization of tiny, low cost externals, providing a very compact solution footprint for handheld applications.

The LTC3670's synchronous buck delivers efficiencies as high as 93% and constant frequency, current mode operation minimizes noise while offering fast transient response. The internal LDOs require only 150mV of dropout voltage, providing two additional low noise outputs. The LTC3670's BurstMode® operation minimizes quiescent current to only 70uA in no load conditions, maximizing battery run time. Other features include a Power-Good pin, internal soft-start and internal compensation.

The LTC3670 is available from stock in a 12-Lead 2mm x3mm DFN package. Pricing starts at \$1.95 each in 1,000-piece quantities.


Photo Caption: Monolithic 400mA, 2.25MHz Buck Regulator with Dual 150mA LDOs
in a 2mm x 3mm DFN

Summary of Features: LTC3670

- Triple Output Supply from a Single 2.5V to 5.5V Input
- 400mA Synchronous Buck DC/DC Plus Dual 150mA LDOs in One IC
- Outputs Regulate Down to 0.8V
- $\pm 2.5\%$ Reference Accuracy
- Constant-Frequency 2.25MHz Operation
- Burst Mode[®] Operation for High Efficiency at Light Loads; $I_Q = 70\mu A$, All Outputs Enabled
- Independent Enable Pin for Each Output
- Current Mode Operation for Excellent Line and Load Transient Response
- Internal Soft-Start for Each Output
- Tiny 12-Lead 3mm x 2mm x 0.75mm DFN 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, 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.

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