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Dual Output 100% Duty Cycle High Output Voltage Step-Down or Current Source DC/DC Controller

MILPITAS, CA – December 18, 2007 – Linear Technology Corporation announces the LT3742, a 100% duty cycle dual output step-down switching regulator DC/DC controller that produces output voltages up to 30V for applications including stepper motors, industrial controls, automotive, distributed power and telecom systems. The LT3742 can also be configured with one side as a step-down voltage regulator and the other a Super Capacitor charger (current source) for capacitor values up to several farads, a useful feature in robotic applications when longer hold-up times are needed or where high peak currents are required.

The LT3742's 100% duty cycle allows the output voltage to be very close to the input voltage, ideal for battery-powered systems. The 4V to 30V input voltage range enables operation from a number of intermediate bus voltages. A simple step-up DC/DC converter is incorporated to generate its own gate drive voltage and also eliminates the extra parts required to drive the high-side MOSFETs. The on-board gate driver powers a single external N-Channel MOSFET for each output, enabling output currents up to 5A. A constant 500kHz operating frequency with current mode control provides fast transient response and easy compensation. Output current sensing is precisely measured by monitoring the voltage drop across a sense resistor and protects the converter during overload and short circuit conditions. In addition, the LT3742 has adjustable soft-start to control the output voltage ramp time and a power good signal for each output.

The LT3742 is offered in a 4mm x 4mm QFN-24 package. Pricing for 1,000-piece quantities begins at \$2.30 each.


Photo Caption: Dual 100% Duty Cycle Step-Down DC/DC Controller

Summary of Features: LT3742

- Dual, 180° Out-of-Phase Step-Down DC/DC Controller
- Input Voltage Range 4V to 30V
- 100% Duty Cycle
- Wide Output Voltage Range 0.8V to 30V
- Current Mode Control
- On-Board N-Channel MOSFET Drivers
- Fixed 500kHz Operating Frequency
- Programmable Soft-Start
- Configurable As Super Capacitor Charger (Current Source)
- Power Good Signals for Both Outputs

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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