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## **60V Input Dual Output Synchronous Step-Down DC/DC Controller Draws Only 50uA in Battery-Powered Systems**

MILPITAS, CA – March 8, 2010 – Linear Technology Corporation introduces the LTC3890/-1, a high voltage dual output synchronous step-down DC/DC controller that draws only 50uA when one output is active and 60uA when both outputs are enabled. With both outputs shut down, the LTC3890/-1 draws a mere 14uA. The 4V to 60V input supply range is designed to protect against high voltage transients, continue operation during automotive cold crank and cover a broad range of input sources and battery chemistries. Each output can be set from 0.8V to 24V at output currents up to 20 amps with efficiencies as high as 95%, making it well suited for 12V or 24V automotive, heavy equipment, industrial control, robotics and telecom applications.

The LTC3890/-1 has powerful 1.1Ohm on-chip MOSFET gate drivers. It operates with a selectable fixed frequency between 50kHz and 900kHz, and can be synchronized to an external clock from 75kHz to 850kHz with its phased-locked loop (PLL). The user can select from continuous operation, pulse skipping and low ripple Burst Mode<sup>®</sup> operation during light loads. The LTC3890/-1's 2-phase operation reduces input filtering and capacitance requirements. Its current mode architecture provides easy loop compensation, fast transient response and excellent line regulation. Output current sensing is accomplished by measuring the voltage drop across the output inductor (DCR) for the highest efficiency or by using an optional sense resistor. Current foldback limits MOSFET heat dissipation during overload conditions. The device is available in two versions; the LTC3890 is the fully featured part with functions including a clock out, clock phase modulation, two separate power good outputs and adjustable current limit.

The LTC3890 is available in a 32-lead 5mm x 5mm QFN package and the LTC3890-1 is housed in a 28-pin SSOP package. Pricing starts at \$4.76 each in 1,000-piece quantities. For more information, visit [www.linear.com](http://www.linear.com).


## **Photo Caption: High Voltage Dual Output DC/DC Controller**

### **Summary of Features: LTC3890/-1**

- Wide Input Voltage Range: 4V to 60V
- 50uA Quiescent Current with One Output Active & 60uA with Both Outputs Active
- 14uA Shutdown Current
- Wide Output Voltage Range: 0.8V to 24V
- Synchronous Rectification for up to 95% Efficiency
- DCR or  $R_{SENSE}$  Current Sense
- Selectable Low Ripple Burst Mode Operation, Pulse Skipping or Continuous Operation
- Selectable Fixed Operating Frequency from 50kHz to 900kHz
- Synchronizable Operating Frequency from 75kHz to 850kHz with PLL
- Current Mode Control for Fast Transient Response & Easy Loop Compensation
- Adjustable Soft-Start
- $\pm 1\%$  Voltage Reference Accuracy Over  $-40^{\circ}\text{C}$  to  $125^{\circ}\text{C}$
- Output Overvoltage & Overcurrent Foldback Protection

### **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<sup>®</sup> 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.

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