



60V Dual Output Synchronous Step-Down Controller with Adjustable 5V to 10V Gate Drive Draws Only 29 μ A in Standby

MILPITAS, CA – April 15, 2015 – Linear Technology Corporation announces the [LTC3892](#), a high voltage dual output synchronous step-down DC/DC controller that draws only 29 μ A when one output is active and 34 μ A when both outputs are enabled. The 4.5V to 60V input supply range is designed to protect against high voltage transients, ensuring continuous operation during automotive cold crank and to accommodate a broad range of input sources and battery chemistries. Each output can be set from 0.8V to 99% of V_{IN} at output currents over 20 amps with efficiencies as high as 96%, making it well suited for 12V or 24V automotive, heavy equipment, industrial control, robotics and telecom applications.

The LTC3892/-1's adjustable 5V to 10V gate drivers enable the use of logic- or standard-level MOSFETs to maximize efficiency. It operates with a selectable fixed frequency between 50kHz and 900kHz, and can be synchronized to an external clock from 75kHz to 850kHz. The user can select from continuous operation, pulse-skipping and low ripple Burst Mode® operation during light loads. The LTC3892/-1's 2-phase operation reduces input filtering and capacitance requirements. Its current mode architecture provides easy loop compensation, fast transient response, fixed frequency operation, excellent line regulation and easy current sharing with paralleled phases for higher current. 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 for high accuracy. Current foldback limits MOSFET heat dissipation during overload conditions. This device is available in two versions; the LTC3892 being the full-

featured part with two power good signals, adjustable current limit and fixed 3.3V or 5V output voltage options.

The LTC3892 is available in a 32-lead 5mm x 5mm QFN package and the LTC3892-1 is available in a 28-lead TSSOP package. Four temperature grades are available, with operation from -40 to 125°C for the extended and industrial grades, a high temp automotive range of -40°C to 150°C and a military grade guaranteed from -55°C to 150°C . The 1,000-piece price starts at \$4.82 each. For more information, visit www.linear.com/product/LTC3892

Photo Caption: High Voltage Dual Output DC/DC Step-Down Controller


Summary of Features: LTC3892/-1

- Wide Input Voltage Range: 4.5V to 60V
- Wide Output Voltage Range: 0.8V to $0.99V_{\text{IN}}$
- 29 μ A Quiescent Current with One Output Active & 34 μ A with Both Outputs Active
- Adjustable 5V to 10V Gate Drive Voltage
- 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
- Phase-Lockable Frequency from 75kHz to 850kHz
- Current Mode Control for Fast Transient Response & Easy Loop Compensation
- Adjustable Soft-Start
- Output Overvoltage & Overcurrent Foldback Protection
- Extended & Industrial Temp Grades: -40°C to 125°C Operating Junction Temp
- Automotive Temp Grade: -40°C to 150°C Operating Junction Temp
- Military Temp Grade: -55°C to 150°C Operating Junction Temp

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

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 over 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, µModule[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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