



Dual Output Synchronous Step-Down DC/DC Controller with Excellent Channel-to-Channel Current Sharing Boosting Power & Reliability

MILPITAS, CA – March 9, 2011 – Linear Technology Corporation introduces the [LTC3869/-2](#), a dual output high efficiency (up to 95%) synchronous step-down DC/DC controller with well balanced current sharing between channels when paralleled. This controller can maintain better than +/-4% current mismatch between channels during steady state and transient conditions when both outputs are paralleled due to its low 2mV sense voltage maximum mismatch. The device's 4V to 38V input range encompasses a wide variety of applications, including most intermediate bus voltages and battery chemistries. The powerful 1.1Ohm onboard gate drivers minimize switching losses and allow the use of high power external MOSFETs to produce output currents up to 25A per channel with output voltages ranging from 0.6V to 12.5V. This device maintains superior jitter-free performance even when the switching edges cross between phases, ideal for noise sensitive requirements. Applications include ASIC and FPGA supplies, power distribution, network servers and automotive power systems.

The LTC3869/-2's current-mode control and minimum on-time of just 90ns make it ideal for high frequency, high step-down ratio applications requiring a small solution size. Tracking and sequencing functions optimize power-up and power-down of multiple power rails. This device operates with all N-channel MOSFETs and produces $\pm 1\%$ accurate output voltages over a wide -40°C to 125°C operating junction temperature range. The output current is sensed by monitoring the voltage drop across the output inductor (DCR) for highest efficiency or by using a sense resistor. A fixed operating frequency can be programmed from 250kHz to 780kHz or can be synchronized to an external clock with its internal phase-locked loop (PLL). Additional features include an onboard LDO for IC power, programmable soft start, a power good signal and external V_{CC} control.

The LTC3869 is pin compatible to the LTC3850 in both package options. The LTC3869 is available in a 4mm x 5mm QFN package and the LTC3869-2 is offered in an SSOP-28. The

1000-piece price starts at \$2.65 each. Both versions are available from stock. For more information, visit www.linear.com/product/LTC3869


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

Summary of Features: LTC3869/-2

- Excellent Current Balance when Both Channels Are Paralleled
- High Efficiency – Up to 95%
- Wide Input Voltage Range from 4.0V to 38V
- Output Voltages Ranging from 0.6V to 12.5V
- 90ns Minimum On-Time for High Frequency, High Step-Down Ratios
- Powerful 1.1Ohm Dual N-Channel MOSFET Gate Driver
- Output Voltage Tracking or Programmable Soft Start
- Phase-Lockable Fixed Frequency from 250kHz to 780kHz
- R_{SENSE} or DCR Current Sensing
- Current-Mode Control

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, and μ Module[®] subsystems.

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