



Phase Extender, Slave Step-Down Controller for up to 240A Compatible with Digital Power System Management

MILPITAS, CA – March 13, 2014 – Linear Technology Corporation introduces the [LTC3870](#), a dual phase synchronous step-down slave controller that can generate currents up to 240A when paired with a companion master controller by extending the phase count in multiphase applications. Compatible master controllers include the LTC3880 and LTC3883 digital power system management controllers.

The LTC3870 is an alternative to Linear Technology's full-featured controllers and provides the essential functions for multiphase slave designs. It operates over an input voltage range of 4.5V to 60V and produces a fixed output voltage up to 14V. Up to 12 phases can be paralleled and clocked out-of-phase to minimize filtering. Its peak current-mode architecture allows for accurate phase-to-phase current sharing even for dynamic loads. Applications include power distribution, redundant (n+1) supplies, industrial systems, DSP and ASIC power.

The LTC3870 has a fixed operating frequency from 250kHz to 1MHz, or it can be synchronized to an external clock. The powerful 1.1 Ohm onboard all N-channel gate drivers minimize MOSFET switching losses. Precise programmable current sense threshold limits from 50mV to 72mV minimize power loss and accurately set the overcurrent trip point. Additional features include selectable continuous or discontinuous light load operation, programmable phase shift control and overvoltage protection.

The LTC3870 is available in a 28-lead 4mm x 5mm QFN package. The 1,000-piece price starts at \$2.35 each. For more information, visit www.linear.com/product/LTC3870

Photo Caption: Phase Extender Slave Step-Down Controller

Summary of Features: LTC3870

- Phase Extender for High Phase Count Voltage Rails
- Ideal for Use with Digital Power System Management Master Controllers LTC3880 & LTC3883
- Accurate Phase-to-Phase Current Sharing
- Peak Current-Mode Control
- Wide V_{IN} Range: 4.5V to 60V
- V_{OUT} Range: Up to 14V
- Up to 12-Phase Operation
- High Output Current Capable – Up to 240A
- Programmable Phase Shift Control
- Adjustable Current Sense Threshold from 50mV to 72mV
- Phase-Lockable Fixed Operating Frequency from 250kHz to 1MHz
- Powerful Onboard 1.1 Ohm Gate Drivers
- Overvoltage & Overcurrent Protection

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

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