



60V Dual DC/DC Controller with I²C/PMBus Digital Control & Programmable Loop Compensation

MILPITAS, CA – August 12, 2015 – Linear Technology Corporation announces the [LTC3886](#), a 60V input dual output synchronous step-down DC/DC controller with programmable loop compensation and I²C-based PMBus interface. This controller employs a constant-frequency, current-mode architecture with programmable output voltage up to 13.8V. The LTC3886 is ideal for harsh environments requiring a high input voltage range commonly found in factory automation, industrial, medical, communications and avionic applications.

The LTC3886 can be configured for dual or single output and is stackable up to 6 phases to support load current as high as 120A. Interleaved clock phasing for 2, 3, 4 or 6 phases reduces the input and output ripple, thereby reducing input and output capacitance. This device is supported by the LTpowerPlay™ software development tool with graphical user interface (GUI). Its serial I²C-based interface enables system designers and remote operators to command and supervise a system's power condition and consumption. The capability to digitally change power supply parameters reduces time-to-market and down time, eliminating what would typically require physical hardware, circuit or system bill-of-material modifications. The LTC3886 simplifies system characterization, optimization and data mining during prototyping, deployment and field operation.

In addition to delivering power to a point-of-load, the LTC3886 features configurability and telemetry monitoring of power and power management parameters over PMBus — an open standard I²C-based digital serial interface protocol. The LTC3886's 2-wire serial interface

enables outputs to be margined, tuned and ramped up and down at programmable slew rates with sequenced delay times. Input and output voltages, along with input and output currents and temperature are readable. The device is comprised of fast, dual analog control loops, precision mixed signal circuitry and EEPROM, and is housed in a 7mm x 8mm QFN-52 package.

To evaluate the performance of the LTC3886, the LTpowerPlay GUI is free for download. USB-to-PMBus converter and demo kits are also available. With $\pm 0.5\%$ maximum DC output error over temperature, $\pm 1.5\%$ current read back accuracy, integrated 16-bit Delta- Sigma ADC and EEPROM, the LTC3886 combines best-in-class analog switching regulator performance with precision mixed signal data acquisition. Channels can accurately share current in both steady state and transient conditions. At start-up, output voltages, switching frequency and channel phase angle assignments can be set by pin-strapping resistors or loaded from internal EEPROM. The LTC3886 operating junction temperature range is from -40°C to 125°C . 1,000-piece price is \$6.35 each. For more information, visit www.linear.com/product/LTC3886

Photo Caption: Dual Synchronous Step-Down Controller with Digital Interface

Summary of Features: LTC3886

- Dual Synchronous Current Mode Step-Down Controller
- Input Voltage Range: 4.5V to 60V
- Output Voltage Range: 0.5V to 13.8V
- Programmable Loop Compensation
- Digital Interface for Remote Power System Management
- $\pm 1.5\%$ Current Read Back Accuracy
- $\pm 0.5\%$ Maximum DC Output Voltage Error Over Temperature
- 7mm x 8mm QFN-52 Package: Includes Data Acquisition & EEPROM

- Readable Data:
- Input & Output Voltages, Input & Output Currents & Temperature
- Faults & Warnings
- Fault Log Record Report
- Power Good Signal


Writable Data:

- Output Voltage, Voltage Sequencing & Margining
- Digital Soft-Start/Stop Ramp
- Switching Frequency & Phasing
- PWM Control Configuration
- Input/Output Overvoltage & Undervoltage
- Output Current Limit
- Overtemperature, Warning & Fault Limits
- PWM Frequency & Phasing
- Programmable Loop Compensation

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

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