



Quad Digital Power Supply Manager with Powerful GUI Speeds Development

MILPITAS, CA – February 21, 2012 – Linear Technology Corporation introduces the [LTC2974](#) power supply manager with EEPROM for complete digital management of power supply systems with four or more power rails. The LTC2974 utilizes an I²C interface and PMBus command set to monitor and control positive or negative supplies, providing rapid troubleshooting and debug capabilities during power system design, development, production and failure analysis. Any supply with a “run” pin can be sequenced and controlled using tracking or time-based events. The LTC2974’s four channels simultaneously monitor voltage and current, as well as external temperature so users can compensate for shifting MOSFET R_{DS(ON)} or inductor DCR. Each supply can be margined and trimmed over temperature, using a digital servo loop that measures the rail voltage and continuously adjusts to maintain accuracy. All of the LTC2974’s supply functions perform with uncompromising accuracy, with better than ±0.25% total unadjusted error. Users can harness the powerful LTpowerPlay™ GUI to intuitively configure and interrogate the LTC2974’s registers, user settings, and fault log. For applications requiring more than four supplies, the LTC2974 can be cascaded using a 1-wire synchronization bus, allowing fault dependencies to be established across devices sharing the fault bus.

The LTC2974 is suitable for a wide variety of applications, including uninterruptible power supplies (UPS), automotive, medical, video and networking applications. The LTC2974 integrates key building blocks, such as differential measurement and adjustment, high resolution data converters, high retention EEPROM, and a precise reference to enable digital management

of an otherwise purely analog power system. A programmable watchdog timer provides supervision to an external microcontroller, FPGA, ASIC. All four channels are fully functional, with dedicated monitoring, supervising, sequencing, margining, trimming, fault protection features. Black box fault logging provides a method to diagnose failure at the time of fault by storing critical parameters in EEPROM. In the field, the LTC2974 operates autonomously to provide continuous supervision and to take preprogrammed action in response to faults. The LTC2974 is also protected with an internal die temperature sensor. This high level of mixed-signal integration ensures that the LTC2974 can reliably manage even the most complex power supply systems with ease.

The LTC2974 joins its 8-channel counterpart, the LTC2978, as part of Linear's expanding digital power supply manager product line, and complements Linear's complete stand-alone DC/DC regulators, such as the 15A LTM4627 or dual 8A LTM4628, which are offered in 15mm x 15mm μ Module[®] packages.

The LTC2974 is available in a 64-lead 9mm x 9mm QFN package that is RoHS compliant and specified over the commercial and industrial temperature ranges. The DC1856 demo system with DC1613 USB-to-PMBus controller showcases the LTC2974 managing four discrete supplies, and is available at www.linear.com or from local Linear sales offices. The LTC2974 is priced starting at \$8.85 each in 1,000 piece quantities. For more information, visit www.linear.com/product/LTC2974.


Photo Caption: Quad Digital Power Supply Manager Monitors Voltage, Current & Temperature

Summary of Features: LTC2974

- I²C/SMBus Serial Interface
- PMBus Compliant Command Set
- Configuration EEPROM with CRC
- Black Box Fault Logging to Internal EEPROM
- Differential Input, 16-Bit $\Delta\Sigma$ ADC with Less than $\pm 0.25\%$ of Total Unadjusted Error
- Four Voltage Servos Precisely Adjust Supply Voltages Using 10-Bit DACs with Soft-Connect
- Monitors Four Output Voltages, Four Output Currents & One Input Voltage
- Monitors Four External Temperature Sensors & Internal Die Temperature
- 4-Channel Sequencer, Time Based or Tracking
- Programmable Watchdog Timer
- Four UV/OV V_{OUT} & One V_{IN} Supervisor
- Four Overcurrent/Undercurrent Supervisors
- Supports Multichannel Fault Management
- LTC2974 Can Be Powered from 3.3V or 4.5V to 15V
- Available in 64-Pin 9mm × 9mm QFN package.

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

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