



PMBus Power System Manager Controls & Monitors 16 Power Supplies to $\pm 0.25\%$ Voltage Accuracy

MILPITAS, CA – April 30, 2014 – Linear Technology Corporation introduces the [LTM2987](#), a highly integrated 16-channel μ Module[®] (micromodule) PMBus power system manager, which adds extensive digital control and monitoring to an analog power system. Software-based configuration and measurement of power system performance reduces time to market, enhances system reliability and enables finely optimized board energy consumption. The device trims, margins and monitors supply outputs with best-in-class $\pm 0.25\%$ voltage accuracy, raising circuit board yields and long-term reliability. Supply sequencing (timed and tracking), supervision and EEPROM fault-logging are also built in. All basic passive components—low pass RC filters, bypass capacitance and pull-up resistors—are integrated. The high functional and component integration reduces solution footprint, shortens the bill of materials and eases routing on large rail-count ASIC, DSP and FPGA boards in servers, network routers and industrial test equipment.

A 16-bit ADC in the LTM2987 measures supply output voltages, input voltage and device temperature. Fast under- and overvoltage supervisors prevent system malfunction and damage. Faults trigger EEPROM black box recording, which simplifies failure analysis while providing insight into future system improvements. Multiple Power System Managers can be cascaded to sequence and fault-manage more than 16 rails. Over one hundred PMBus compatible commands are provided for flexible programming and data readback of the power system. Register configuration is accomplished through the LTpowerPlay[™] development environment, which

supports all Linear Technology digital Power System Management (PSM) devices. Once programmed, no software coding is needed for autonomous operation.

Specified over the 0°C to 70°C commercial and –40°C to 105°C industrial temperature range, the LTM2987 is offered in a 144-pin 15mm x 15mm BGA (ball grid array) package. 1,000-piece pricing starts at \$23.95 each. Device samples and evaluation circuit boards are available online or from your local Linear Technology sales office. For more information, visit www.linear.com/product/LTM2987


Photo Caption: 16-Channel μ Module® PMBus Power System Manager for Comprehensive Digital Power Management

Summary of Features: LTM2987

- Digitally Manage 16 Power Supplies
- Trim/Margin/Monitor Supply Outputs to $\pm 0.25\%$ Accuracy
- PMBus Compliant Commands over I²C/SMBus Digital Interface
- EEPROM for Configuration & Black Box Fault Logging
- Supported by LTpowerPlay GUI
- Supply Sequencer – Time Based or Tracking
- Monitor (16-Bit ADC) & Supervise:
 - o Two Bias Inputs & Sixteen Supply Outputs
 - o Optional Current Monitor on Odd Channels
 - o Device Temperature
- Coordinated Sequencing & Fault Management Across Managers
- Operates Autonomously without Additional Software
- Programmable Watchdog Timer
- Powered from 3.3V, or 4.5V to 15V
- –40°C to 105°C Operation
- 144-Pin 15mm × 15mm BGA 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 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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