



Digital Monitor Provides Accurate Internal & Remote Temperature Measurements

MILPITAS, CA – September 22, 2010 – Linear Technology Corporation introduces the [LTC2990](#), an I²C temperature and voltage monitor for 3V and 5V systems. Many emerging, low voltage systems today rely on monitoring ICs to relay parametric data used in assessing overall system health and reliability. Traditional ADC implementations require a sensor, low noise preamplifier, precise reference and some type of digital interface, resulting in a complex monitoring scheme prone to inaccuracies if not carefully designed. The LTC2990 is a highly integrated monitoring solution that incorporates a 14-bit ADC, a 10ppm/°C voltage reference and I²C digital interface to provide submillivolt voltage resolution, as well as ±1°C accuracy internally and ±0.5°C accuracy remotely when making temperature measurements. The LTC2990 provides a configurable, yet simple solution for monitoring temperature and voltage without compromising accuracy on any parameter.

The LTC2990 caters to a wide variety of applications including supply voltage monitoring and remote diode temperature measurement, particularly in industrial or computing systems where thermal management is crucial for maximizing performance. The device enables configuration of four single-ended voltage inputs to measure any combination of internal temperature, remote temperature, remote voltage and internal V_{CC} for single or repeated measurements. When making differential measurements of diode or transistor voltages to calculate temperature, the LTC2990 allows for cancellation of error due to sensor series resistance. The LTC2990's accuracy is the result of the averaging 14-bit ADC, while the number of supporting components and area required is minimized thanks to the internal 10ppm voltage reference. In addition, the I²C serial interface enables easy configuration and read back of the device's control, status and data registers, with support of up to 400kbit/s in I²C fast mode.

The LTC2990 is offered in commercial and industrial versions, supporting operating temperature ranges from 0°C to 70°C and -40°C to 85°C, respectively. The LTC2990 is available today in a small RoHS compliant, 10-lead MSOP package. Pricing starts at \$2.25 each

in 1,000 piece quantities. Please visit www.linear.com/2990 for more product selection and information.


Photo Caption: I²C Temperature & Voltage Monitor

Summary of Features: LTC2990

- Measures Voltage, Current, Temperature
- Measures Two Remote Diode Temperatures
- $\pm 1^{\circ}\text{C}$ Accuracy, 0.06°C Resolution
- $\pm 2^{\circ}\text{C}$ Internal Temperature Sensor
- 14-Bit ADC Measures Voltage/Current
- 3V to 5.5V Supply Operating Voltage
- Four Selectable Addresses
- Internal 10ppm/ $^{\circ}\text{C}$ Voltage Reference
- 10-Lead MSOP Package

About Linear Technology

Linear Technology Corporation, a manufacturer of high performance linear integrated circuits, was founded in 1981, became a public company in 1986 and joined the S&P 500 index of major public companies in 2000. Linear Technology products include high performance amplifiers, comparators, voltage references, monolithic filters, linear regulators, DC-DC converters, battery chargers, data converters, communications interface circuits, RF signal conditioning circuits, uModule[™] products, and many other analog functions. Applications for Linear Technology's high performance circuits include telecommunications, cellular telephones, networking products such as optical switches, notebook and desktop computers, computer peripherals, video/multimedia, industrial instrumentation, security monitoring devices, high-end consumer products such as digital cameras and MP3 players, complex medical devices, automotive electronics, factory automation, process control, and military and space systems.

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