



## **Tiny, 24-Bit, 4-Channel Delta-Sigma ADC Includes Calibrated Temperature Sensor and Easy Drive Input Current Cancellation**

MILPITAS, CA – November 28, 2006 – Linear Technology Corporation introduces the LTC2492, a 4-channel delta-sigma analog-to-digital converter (ADC) that integrates a temperature sensor and a novel front-end design in a tiny 4mm x 3mm DFN package. The LTC2492's Easy Drive™ design results in zero average differential input current, allowing measurements of high impedance input sources without the need for an internal buffer. This patented sampling scheme simplifies the design of front-end signal conditioning circuits and allows the ADC to be driven directly from bridges, RTDs, thermocouples and high impedance sensors. Rail-to-rail input signals can be directly digitized while maintaining excellent DC accuracy (2ppm INL).

The LTC2492 includes a high accuracy internal temperature sensor that offers 1/30°C resolution and 2°C absolute accuracy. The ADC converts the output of the temperature sensor or the input multiplexer, which can be configured for four single-ended channels, two differential channels, or two single-ended and one differential. After a new channel is selected, the LTC2492's No Latency Delta-Sigma™ digital filter settles in a single cycle. The LTC2492 communicates via a 4-wire SPI-compatible serial interface and performs conversions at rates of 15Hz or 7.5Hz while using the internal oscillator. The LTC2492 can be configured to reject line frequencies of 50Hz, 60Hz or simultaneous 50Hz/60Hz, while maintaining 600nV<sub>RMS</sub> noise across the full input voltage range.

For lower resolution applications, Linear Technology is also introducing the LTC2488, a pin-compatible 16-bit ADC. The LTC2492 and LTC2488 are each available in DFN-14 (4mm x 3mm) packages, offering a pin-compatible and code-compatible family for performance/cost optimization. Both Easy Drive delta-sigma ADCs are available in commercial and industrial temperature ranges. Pricing begins at \$2.95 each for the LTC2492 and \$2.15 each for the LTC2488, in 1,000-piece quantities.


**Photo Caption:** 24-Bit, 4-Channel Easy Drive Delta-Sigma ADC

**Summary of Features: LTC2492**

- 2 Differential/4 Single-Ended Input Channels
- Easy Drive Technology Enables Rail-to-Rail Inputs with Zero Differential Input Current
- Directly Digitizes High Impedance Sensors with Full Accuracy
- Tiny 4mm x 3mm DFN Package
- 600nV RMS Noise
- Integrated High Accuracy Temperature Sensor
- Programmable 50Hz, 60Hz or Simultaneous 50Hz/60Hz Rejection Mode
- 2ppm INL, 24-Bit No Missing Codes
- Single Supply 2.7V to 5.5V Operation (0.8mW)
- SPI-Compatible Serial I/O

**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, 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. For more information, visit [www.linear.com](http://www.linear.com)

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