



## **Tiny 24-Bit, I<sup>2</sup>C 4-Channel Delta-Sigma ADC Includes High-Accuracy Temperature Sensor**

MILPITAS, CA – April 24, 2007 – Linear Technology Corporation introduces the LTC2493, a 4-channel delta-sigma analog-to-digital converter (ADC) with an internal temperature sensor that offers 1/30°C resolution and 2°C absolute accuracy. The accurate, integrated temperature sensor enables temperature compensation of external sensors. The LTC2493 communicates via a 2-wire I<sup>2</sup>C-compatible serial interface and measures four single-ended or 2 differential analog inputs in a tiny 4mm x 3mm DFN package, consuming just 300uA(max). The LTC2493's novel Easy Drive™ architecture results in zero average differential input current, allowing measurements of high impedance input sources without the use of an internal buffer. The LTC2493 directly digitizes rail-to-rail input signals while maintaining excellent DC accuracy (2ppm INL), making it ideal for measuring multiple sensor signals such as temperature, pressure or current monitoring.

The LTC2493 maintains 600nV<sub>RMS</sub> noise across the full input voltage range, enabling measurement of microvolt level changes or signals as large as +/-2.5V. 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 channel. The LTC2493 performs conversions at rates of 15Hz or 7.5Hz while using the internal oscillator and can be configured to reject line frequencies of 50Hz, 60Hz or simultaneous 50Hz/60Hz.

For lower resolution applications, Linear Technology is also introducing the LTC2489 and LTC2487, a pair of pin-compatible 16-bit ADCs. The LTC2487 includes programmable gain, an internal temperature sensor and selectable output frequency rejection. The LTC2493, LTC2489 and LTC2487 are all available in 4mm x 3mm DFN-14 packages, offering a pin-and software-compatible family for performance/cost optimization. These Easy Drive

delta-sigma ADCs are all available in commercial and industrial temperature ranges.

Pricing begins at \$2.95 each for the LTC2493, \$2.35 each for the LTC2487, and \$2.15 each for the LTC2489, in 1,000-piece quantities.


**Photo Caption:** 24-Bit, 4-Channel I<sup>2</sup>C Easy Drive Delta-Sigma ADC

### **Summary of Features: LTC2493/LTC2489/LTC2487**

- 2 Differential/4 Single-Ended Input Channels
- Easy Drive Technology Enables Rail-to-Rail Inputs with Zero Differential Input Current
- 2-Wire I<sup>2</sup>C-Compatible Serial I/O
- Integrated 2°C Temperature Sensor (LTC2493, LTC2487)
- Directly Digitizes High Impedance Sensors with Full Accuracy
- Tiny 4mm x 3mm DFN Package
- 600nV<sub>RMS</sub> Noise
- Programmable 50Hz, 60Hz or Simultaneous 50Hz/60Hz Rejection Mode (LTC2493, LTC2487)
- 2ppm INL, 24-Bit No Missing Codes
- Single Supply 2.7V to 5.5V Operation (300uA max)
- 2x Speed Mode Doubles Output Rate or Reduces Current 50% (LTC2493, LTC2487)

### **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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