



## **12-Bit, 1-/2-Channel 500ksps SAR ADCs Offer Compact Solution Size and Low Power**

MILPITAS, CA – January 23, 2008 – Linear Technology Corporation introduces the LTC2302 and LTC2306, pin- and software-compatible 1-/2-channel 12-bit analog-to-digital converters (ADC). These ADCs communicate via an SPI-compatible serial interface at output rates up to 500ksps. The LTC2302 measures a single differential input channel, suitable for measuring bridge sensors. The LTC2306 includes an internal multiplexer and measures 2 single-ended or 1 differential input channel. Both the LTC2302 and LTC2306 are software-compatible with the LTC2308, a 12-bit, 500ksps, 8-channel ADC, making it easy to port code between applications measuring 1, 2 or 8 analog channels.

The LTC2302/LTC2306 operate from a single 5V supply, dissipating only 15mW at the 500ksps output rate. Power dissipation decreases dramatically at slower output rates, dissipating only 70uW at 1ksps. For further power savings, a sleep mode reduces the power to 35uW. With their low power and tiny 3mm x 3mm DFN-10 package, the LTC2302/LTC2306 are ideal for high-speed data acquisition and portable designs.

The LTC2302/LTC2306 achieve excellent DC specifications, including  $\pm 1$ LSB (max) INL and DNL. With a fully differential sample-and-hold circuit to reduce common mode noise, these ADCs also excel when digitizing AC input signals, measuring 73dB SINAD and -88dB THD at 10kHz. A separate digital output supply voltage ( $OV_{DD}$ ) allows users to configure the serial data output for 3V or 5V logic.

The LTC2302 and LTC2306 are available today in both commercial and industrial temperature grades. The LTC2302/LTC2306 are competitively priced, beginning at \$2.10 for 1,000-piece quantities.


**Photo Caption:** 12-Bit, 1-/2-Channel, 500ksps ADCs in 3mm x 3mm DFN

## Summary of Features LTC2302/LTC2306

- 500ksps Conversion Rate
- Low Power Dissipation:
  - 15mW at 500ksps
  - 70uW at 1ksps
  - 35uW Sleep Mode
- 1 Differential Input (LTC2302)/2 Single-Ended Inputs (LTC2306)
- 5V Single Supply Operation
- Tiny 3mm x 3mm DFN-10 Package
- 73dB SINAD at 10kHz
- 3-Wire SPI-Compatible Serial Interface
- Software-Selectable Unipolar or Bipolar Input Ranges
- Separate  $OV_{DD}$  Digital Output Voltage Supply: 2.7V to 5.5V

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

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