



12-Bit, 1-/2-Channel I²C SAR ADCs Guaranteed up to +125°C

MILPITAS, CA – September 8, 2008 – Linear Technology Corporation introduces the LTC2301/LTC2305, a pair of 1-/2-channel 12-bit analog-to-digital converters (ADCs) that communicate via an I²C-compatible 2-wire interface and dissipate just 1.5mW at a 1ksps output rate. Offered in pin-compatible 4mm x 3mm DFN and MSOP packages, the LTC2301 measures a single differential input while the LTC2305 digitizes two single-ended inputs. Both ADCs offer guaranteed specifications over the automotive/H-grade temperature range of -40°C to +125°C in the MSOP package. The LTC2301/LTC2305 are ideal for automotive sensing, power and temperature measurements, as well as space-constrained designs that require I²C communication.

These ADCs join the previously released 8-channel LTC2309, offering a complete family of software-compatible 1-/2-/8-channel 12-bit I²C successive approximation register (SAR) ADCs that operate from a single 5V supply. All three ADCs offer an internal reference and a low-power shutdown mode that reduces power dissipation to 35uW.

The LTC2301/LTC2305 achieve excellent DC specifications, including +/-1LSB INL and DNL, +/-2mV(max) zero-scale error and +/-1LSB(max) full-scale error. The LTC2301/LTC2305 also excel when digitizing AC input signals, achieving 73dB SINAD and -88dB THD at 1kHz.

The LTC2301/LTC2305 are capable of I²C data transfers up to 400kHz, allowing for throughput rates up to 14ksps. Data can be transferred via 3V or 5V logic. These ADCs include two address select pins that can be tied low, high or left floating, allowing selection of any of nine unique I²C addresses. This is ideal for applications that require measurement of multiple channels, as designers can easily communicate with more than one LTC2301/LTC2305 ADC in parallel.

The LTC2301 and LTC2305 are available today in commercial, industrial and automotive temperature grades. Pricing begins at \$1.95 for 1,000-piece quantities.

12-Bit I²C ADC Family

Part Number	LTC2301	LTC2305	LTC2309
Input Channels	1	2	8


Photo Caption: 12-Bit, I²C, 1-/2-channel SAR ADCs

Summary of Features: LTC2301/LTC2305

- 12-Bit Resolution
- I²C-Compatible, 2-Wire Interface
- Pin-Compatible MSOP and 4mm x 3mm DFN Packages:
 - 1 Differential Input (LTC2301)
 - 2 Single-Ended Inputs (LTC2305)
- Fast 1.3 μ s Conversion Time
- 14ksp/s Throughput Rate
- Low Power Dissipation:
 - 1.5mW at 1ksp/s, 35 μ W Sleep Mode
- 5V Analog Supply Operation, 3V or 5V Data Transfer
- Internal Reference, Internal Conversion Clock
- 73dB SINAD at 1kHz
- Two 3-State Address Select Pins Allow Nine Unique Addresses

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.

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