



18-Bit, 1Msps, 8-Channel Multiplexed SAR ADC with Sequencer Combines Performance & Configurability

MILPITAS, CA – February 12, 2015 – Linear Technology Corporation introduces the [LTC2373-18](#), an 8-channel, 18-bit, 1Msps successive approximation register (SAR) ADC with exceptional 100dB SNR performance. The LTC2373-18 is equipped with a programmable sequencer that can store up to 16 control words for configuring the multiplexer (MUX) and input range. This provides the ability to easily mix and match fully differential and pseudo-differential input ranges with a variety of MUX channel configurations. Single-ended input signals may also be converted to the fully differential input range of the ADC core by sharing a single external driver circuit between the MUXOUT/ADCIN pins available on the device. This enables the user to achieve the full 100dB SNR performance of the ADC on eight single-ended inputs.

The LTC2373-18 leads a family of 16-/18-bit 8-channel multiplexed SAR ADCs that communicate over SPI-compatible interfaces, feature sample rates of 500ksps and 1Msps, and achieve 100dB SNR at 18 bits, and 96dB SNR at 16 bits with the $\pm 4.096\text{V}$ fully differential input range. The LTC2373 family integrates a precision bandgap reference with low drift and guaranteed 20ppm/ $^{\circ}\text{C}$ maximum temperature coefficient and a high performance reference buffer into a small 25mm² QFN-32 package. The device is powered from a single 5V supply and consumes only 40mW at 1Msps.

The LTC2373-18 is available today in commercial, industrial and automotive (-40°C to 125°C) temperature grades. Pricing begins at \$17.35 each in 1,000-piece quantities. The

DC2071A evaluation board for the LTC2373 SAR ADC family is available at

www.linear.com/demo or via a local Linear Technology sales office. For more information, visit

www.linear.com/product/LTC2373-18

Photo Caption: 18-Bit, 1Msps, 8-Channel Multiplexed SAR ADC with 100dB SNR


Summary of Features: LTC2373-18

- 1Msps Throughput Rate
- 18-Bit Resolution with No Missing Codes
- 8-Channel Multiplexer with Selectable Input Range
 - Fully Differential
 - Pseudo-Differential Unipolar
 - Pseudo-Differential Bipolar
- INL: ± 2.5 LSB (Maximum)
- SNR: 100dB (Fully Differential)/ 95.5dB (Pseudo-Differential) (Typical) at $f_{IN} = 1$ kHz
- THD: -110 dB (Typical) at $f_{IN} = 1$ kHz
- Programmable Sequencer
- Selectable Digital Gain Compression
- Single 5V Supply with 1.8V to 5V I/O Voltages
- SPI-Compatible Serial I/O
- Onboard 2.048V Reference and Reference Buffer
- No Pipeline Delay, No Cycle Latency
- Power Dissipation 40mW (Typical)
- Guaranteed Operation to 125°C
- 32-Lead 5mm × 5mm QFN Package

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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