



## **18-Bit, 1Msps, $\pm 10.24\text{V}$ True Bipolar SAR ADC Simplifies Input Signal Conditioning for $\pm 10$ Volt Applications**

MILPITAS, CA – September 30, 2013 – Linear Technology Corporation introduces the [LTC2338-18](#), an 18-bit 1Msps no latency analog-to-digital converter (ADC) with a wide  $\pm 10.24\text{V}$  fully differential, true bipolar input range for high voltage, industrial applications. The device operates from a single 5V supply, achieves 100dB SNR and -110dB THD and features an internal 2.048V (20ppm/ $^{\circ}\text{C}$  max) reference and reference buffer. An input divider network scales and level shifts the input signal, eliminating complicated circuitry required to directly interface true bipolar signals.

The LTC2338-18 leads a pin- and software-compatible family of 18-bit serial SPI SAR ADCs with speeds ranging from 250ksps to 1Msps. A pin-compatible 16-bit and 18-bit family with pseudo differential true bipolar inputs (LTC2328-18) will also be available. The proprietary internal reference buffer maintains less than 1LSB error during sudden burst of conversions, enabling true one-shot operation after lengthy idle periods. These ADCs operate from a single 5V supply and consume just 50mW at 1Msps. Power further reduces linearly at slower sample rates. A shutdown mode dissipates only 300 $\mu\text{W}$  when idle.

The DC1908A demonstration board enables easy evaluation of the LTC2338 family in conjunction with the DC590B (QuikEval<sup>TM</sup>) or DC718C (PScope<sup>TM</sup>) data collection boards. The fully differential LTC2338-18 and pseudo differential LTC2328-18 families are available in small MSOP-16 packages in commercial, industrial and automotive temperature grades. Pricing begins at \$29.10 in 1,000 piece quantities. For more information, visit [www.linear.com/product/LTC2338](http://www.linear.com/product/LTC2338)


**Photo Caption:** 18-Bit 1MSPS No-Latency Serial SAR ADC with  $\pm 10\text{V}$  True Bipolar Inputs

## Summary of Features: LTC2338-18

- 1MSPS Throughput Rate
- $\pm 4\text{LSB}$  INL Max
- Fully Differential Inputs
- True Bipolar Input Ranges  $\pm 6.25\text{V}$ ,  $\pm 10.24\text{V}$ ,  $\pm 12.5\text{V}$
- 100dB SNR (Typ) at  $f_{\text{IN}} = 2\text{kHz}$
- $-110\text{dB}$  THD (Typ) at  $f_{\text{IN}} = 2\text{kHz}$
- Guaranteed Operation to  $125^\circ\text{C}$
- 5V Supply
- Low Drift ( $20\text{ppm}/^\circ\text{C}$  Max) 2.048V Internal Reference
- Onboard Single-Shot Capable Reference Buffer
- No Pipeline Delay, No Cycle Latency
- 1.8V to 5V I/O Voltages
- SPI-Compatible Serial I/O with Daisy-Chain Mode
- Internal Conversion Clock
- Power Dissipation 50mW (Typ)
- 16-Lead MSOP Package

## 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,  $\mu\text{Module}^{\text{®}}$  subsystems, and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

 , LT, LTC, LTM, Linear Technology, the Linear logo and  $\mu\text{Module}$  are registered trademarks of Linear Technology Corp. All other trademarks are the property of their respective owners.

### Press Contacts:

#### North America / Worldwide

John Hamburger, Director Marketing  
Communications  
[jhamburger@linear.com](mailto:jhamburger@linear.com)  
Tel: 408-432-1900 ext 2419

#### UK & Nordic

Alan Timmins  
[alan@ezwire.com](mailto:alan@ezwire.com)  
Tel: +44-1-252-629937

Doug Dickinson, Media Relations Manager  
[ddickinson@linear.com](mailto:ddickinson@linear.com)

Tel: 408-432-1900 ext 2233