



## **Smallest 14-Bit, 4.5Msps SAR ADC Integrates Precision Reference in 8mm<sup>2</sup> TSOT-23 Package**

MILPITAS, CA – March 11, 2013 – Linear Technology Corporation introduces the [LTC2314-14](#), a 14-bit 4.5Msps successive approximation register (SAR) ADC in a tiny 8-lead TSOT-23 package, offering up to 90% reduction in size over competing solutions for space-conscious applications. This small SAR ADC integrates a precision 2.048V/4.096V reference with 7ppm/°C typical and guaranteed 20ppm/°C maximum temperature coefficient into an 8mm<sup>2</sup> footprint. The LTC2314-14 operates from a 3V or 5V supply and features the lowest power dissipation (18mW at 3V or 31mW at 5V) compared to other competitive parts on the market. With its serial SPI interface, tiny footprint and very low power dissipation, the LTC2314-14 is ideal for a wide range of portable and space-constrained applications, including medical devices, communications systems and battery-operated systems.

Also available is the [LTC2315-12](#), a 12-bit pin- and software-compatible version of the LTC2314-14, featuring a fast 5Msps sample rate. The LTC2314-14 and LTC2315-12 lead a family of 14- and 12-bit SAR ADCs featuring sample rates from 500ksps to 5Msps with 77.5dB SNR at 14 bits and 73dB SNR at 12 bits resolution. Accurate DC specifications include a maximum INL and DNL of  $\pm 3.75\text{LSB}$  and  $\pm 0.99\text{LSB}$  at 14-bits, and  $\pm 1.25\text{LSB}$  and  $\pm 0.99\text{LSB}$  at 12-bits, respectively. The complete LTC2314 SAR ADC family offers single-ended unipolar inputs, small 8-lead TSOT-23 packages, precision integrated reference and low power dissipation with flexible 3V or 5V supply operation, along with nap and sleep modes for optimizing the power within a system.

The LTC2314-14 and LTC2315-12 are available today in commercial, industrial and automotive (-40°C to 125°C) temperature grades. Pricing begins at \$9.52 each for the LTC2314-14 and \$5.17 each for the LTC2315-12 in 1,000-piece quantities. The DC1563A evaluation board for the LTC2314 SAR ADC family is available at [www.linear.com/demo](http://www.linear.com/demo) or via a local Linear Technology sales office. For more information, visit [www.linear.com/product/LTC2314-14](http://www.linear.com/product/LTC2314-14) and [www.linear.com/product/LTC2315-12](http://www.linear.com/product/LTC2315-12).


**Photo Caption:** 14-Bit, 4.5Msps SAR ADC in Tiny 8-Lead ThinSOT™-23

**Summary of Features: LTC2314-14 & LTC2315-12**

- 4.5Msps Throughput Rate
- Guaranteed 14-Bit No Missing Codes
- Internal Reference: 2.048V/4.096V Span
- Low Noise: 77.5dB SNR
- Low Power: 6.2mA at 4.5Msps & 5V
- Flexible 3V or 5V Supply Operation
- ±3.75LSB INL Max (5V), ±0.99LSB DNL Max
- Sleep Mode with < 1µA Typical Supply Current
- Nap Mode with Quick Wake-Up < 1 conversion
- Separate 1.8V to 5V Digital I/O Supply
- High Speed SPI-Compatible Serial I/O
- Guaranteed Operation from -40°C to 125°C
- 8-Lead TSOT-23 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 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, µModule® subsystems, and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

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