



## 100MHz SPI Isolators Facilitate Faster Data Converters

MILPITAS, CA – November 8, 2016 – Linear Technology Corporation introduces the [LTM2893](#) and LTM2895, SPI (serial peripheral interface)  $\mu$ Module<sup>®</sup> isolators, optimized for Linear Technology's extensive family of high performance data converters. The LTM2893 and LTM2895 support SPI clock speeds up to 100MHz, more than doubling the effective 40MHz limit of existing digital isolators and enabling the use of higher resolution and higher speed data converters while maintaining zero latency operation. With a fast SPI interface, 6,000V<sub>RMS</sub> of galvanic isolation, and additional high speed control signals, the LTM2893 and LTM2895 require no external components and provide a simple  $\mu$ Module solution for isolated data converter communications.

The LTM2893 (read only) and LTM2893-1 (read/write) are designed to isolate Linear Technology's general purpose successive approximation register (SAR) analog-to-digital converters (ADCs), including the LTC2378 family of 20-, 18- and 16-bit 1Msps SAR ADCs or the LTC2348 family of octal, 18- and 16-bit 200ksps/channel simultaneous sampling SAR ADCs. Additional high speed control signals provide support for parallel or chain-connected configurations, as well as analog multiplexers or programmable gain amplifiers. Configurable word length allows SPI access to be tailored to a specific ADC to maximize throughput. With only 30ps<sub>RMS</sub> of additive jitter from input to output, the LTM2893 and LTM2893-1 minimize signal-to-noise ratio (SNR) degradation in ADCs due to jitter.

The LTM2895 is designed to isolate Linear Technology's general purpose digital-to-analog converters (DACs), including the unipolar LTC2641 family or bipolar LTC2642 family of 16-/14-/12-bit unbuffered voltage output DACs. Additional high speed control signals provide support for dual channel, dual DAC, or host-to-host (i.e., FPGA to isolated FPGA with page mode data transfer) configurations, while a configurable word length allows SPI access to be tailored to a specific DAC to maximize throughput. A low 30ps<sub>RMS</sub> jitter /LOAD signal path is also available for DACs with an asynchronous LOAD input.

The LTM2893, LTC2893-1 and LTM2895 are housed in a low profile 15mm x 6.25mm x 2.06mm surface mount BGA package; all integrated circuits and passive components are housed in this RoHS-compliant  $\mu$ Module package. All devices are available in commercial, industrial and automotive versions, supporting operating temperature ranges from 0°C to 70°C, -40°C to 85°C and -40°C to 125°C, respectively. The LTM2893 and LTM2893-1 are available now in production quantities, and the LTM2895 will be available later this year. Pricing starts at \$8.95 each in 1,000-piece quantities. The LTM2893, LTM2893-1 and LTM2895 join a family of  $\mu$ Module isolators that includes isolated RS485, RS232, USB, CAN, I<sup>2</sup>C, and GPIO. Please visit [www.linear.com/isolator](http://www.linear.com/isolator) for more product selection and information.

**Photo Caption:** Isolated ADC with 100MHz SPI Interface

### **Summary of Features: LTM2893, LTM2893-1 & LTM2895**

- Isolated Interface: 6000V<sub>RMS</sub> for 60 Seconds
- Up to 100MHz SPI Compatible I/O
- Configurable SPI Word Length: 8 to 32 Bits
- Supports Multi-Data Converter Configurations
- Low Jitter Conversion Start (LTM2893) & /LOAD (LTM2895) Signals
- Three Isolated Control or Multiplexer Select Signals
- 3V to 5.5V Supply Voltages
- High Common Mode Transient Immunity: >50kV/ $\mu$ s
- No External Components Required
- 15mm x 6.25mm x 2.06mm BGA Package

Pricing shown is for budgetary use only and 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,  $\mu$ Module<sup>®</sup> subsystems, and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

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