



## **Precision Differential Amplifier Drives 20-Bit ADCs Consuming Less than 2mA**

MILPITAS, CA – September 24, 2015 – Linear Technology introduces the [LTC6363](#), a low power, high precision, fully differential amplifier optimized for driving high performance 16-, 18- and 20-bit SAR and  $\Delta\Sigma$  ADCs. Featuring 100 $\mu$ V maximum input offset voltage and 2.9nV/ $\sqrt{\text{Hz}}$  input-referred voltage noise, the LTC6363 consumes just 19mW on a 10V supply. It can convert single-ended signals to differential outputs or be used in a fully differential manner, settling an 8V<sub>p-p</sub> differential output step to 18-bit resolution in just 780ns. Four external resistors set the LTC6363 gain. The LT5400 family of highly matched quad resistors can be used to achieve excellent linearity. The LTC6363 is stable whether configured for unity gain, higher gain or attenuation.

The LTC6363 operates on a 2.8V to 11V supply. Its outputs swing rail-to-rail and a V<sub>OCM</sub> pin sets the output common mode voltage for optimal matching to the input range of precision 20-bit SAR ADCs such as the LTC2378-20.

The LTC6363 is specified over the –40°C to 85°C and –40°C to 125°C temperature ranges, and is available in MSOP-8 and 2mm x 3mm DFN packages. Prices start at \$2.49 each in 1,000 piece quantities. For more information, visit [www.linear.com/product/LTC6363](http://www.linear.com/product/LTC6363).

## Photo Caption: LTC6363 Drives Differential 20-bit SAR ADCs


### Summary of Features: LTC6363

- 100 $\mu$ V Max Offset Voltage
- 50nA Max Input Offset Current
- Fast Settling: 780ns to 18-Bit, 8V<sub>P-P</sub> Output
- 1.9mA Supply Current
- 2.9nV/ $\sqrt{\text{Hz}}$  Input-Referred Noise
- 2.8V ( $\pm 1.4$ V) to 11V ( $\pm 5.5$ V) Supply Voltage Range
- Differential Rail-to-Rail Outputs
- Input Common Mode Range Includes Ground
- Low Distortion: 115dB SFDR at 2kHz, 18V<sub>P-P</sub>
- 500MHz Gain-Bandwidth Product
- 35MHz  $-3$ dB Bandwidth
- Low Power Shutdown: 20 $\mu$ A ( $V_S = 3$ V)
- 8-Lead MSOP & 2mm  $\times$  3mm 8-Lead DFN Packages

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

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