

128-Channel, 24-Bit Current-to-Digital ADC

ADAS1128

FEATURES

128-channel, low level currents-to-digital converter Up to 24-bit resolution Up to 19.7 kSPS (50.76 µs integration time) Simultaneous sampling Ultralow noise (down to 0.4 fC [2500e]) User-adjustable full-scale range INL: ±0.025% of reading ±0.75 ppm of FSR Very low power dissipation: 4.5 mW/channel LVDS/CMOS self-clocked serial interface **Daisy-chain configuration registers** On-board temperature sensor and reference buffer 10 mm × 10 mm, Mini-BGA package Low cost external components **Support tools Evaluation board** Reference design with reference layout **FPGA Verilog code**

APPLICATIONS

CT scanner data acquisition
Photodiode sensors and power monitoring
Spectroscopy
High channel-count data acquisition systems (current or voltage inputs)

GENERAL DESCRIPTION

The ADAS1128 is a 128-channel, current-to-digital, analog-to-digital converter (ADC). It contains 128 low power, low noise, low input current integrators, simultaneous sample-and-holds, and two high speed, high resolution ADCs with configurable sampling rate and resolutions up to 24 bits.

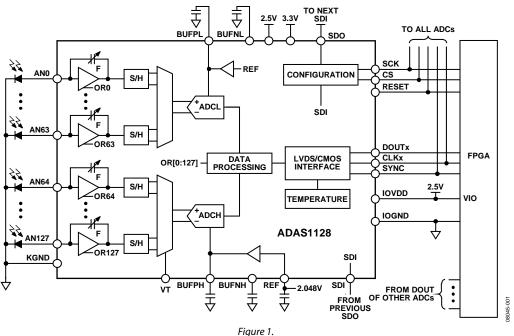
All converted channel results are output on a single LVDS selfclocked serial interface, which reduces external hardware.

An SPI-compatible serial interface allows configuration of the ADC using the SDI input. The SDO output allows one to daisy-chain several ADCs on a single, 3-wire bus. It uses the separate supply IOVDD to reduce digital noise effect on the conversions.

The ADAS1128 is housed in a 10 mm \times 10 mm, mini-BGA package.

For more information on the ADAS1128, contact Analog Devices, Inc, at adas@analog.com.

FUNCTIONAL BLOCK DIAGRAM



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