

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

ADAS1128 Data Sheet

FEATURES

128-channel, low level current-to-digital converter Up to 24-bit resolution Up to 19.7 kSPS (50.7 μs integration time) Simultaneous sampling No dead time, no loss of charge Ultralow noise (down to 0.4 fC [2500e-1) User-adjustable full-scale range INL: ±0.025% of reading ±0.75 ppm of FSR Very low power dissipation: 4.5 mW/channel LVDS self-clocked serial data interface

On-board temperature sensor and reference buffer

10 mm × 10 mm, mini-BGA package Low cost external components

SPI configuration registers (daisy-chain)

Support tools

Evaluation board Reference design with reference layout **FPGA Verilog code**

APPLICATIONS

Medical, industrial, and security CT scanner data acquisition **Photodiode sensors** Dosimetry and radiation therapy systems **Optical fiber power monitoring** X-ray detection systems High channel-count data acquisition systems (current or voltage inputs)

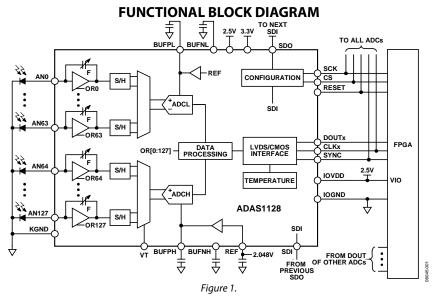
GENERAL DESCRIPTION

The ADAS1128 is a 128-channel, current-to-digital, analog-todigital 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 the user to daisy-chain several ADCs on a single, 3-wire bus. The ADAS1128 uses the separate supply IOVDD to reduce digital noise effect on the conversions.

The ADAS1128 is in a 10 mm × 10 mm, mini-BGA package.



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

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