

FEATURES**128-channel, low level current-to-digital converter****Up to 24-bit resolution****Up to 19.7 kSPS (50.7 μ s integration time)****Simultaneous sampling****Ultralow noise (down to 0.4 fC [2500e⁻¹])****User-adjustable full-scale range****INL: $\pm 0.025\%$ of reading ± 0.75 ppm of FSR****Very low power dissipation: 4.5 mW/channel****LVDS self-clocked serial data interface****SPI configuration registers (daisy-chain)****On-board temperature sensor and reference buffer****10 mm \times 10 mm, mini-BGA package****Low cost external components****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-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 self-clocked 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 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.

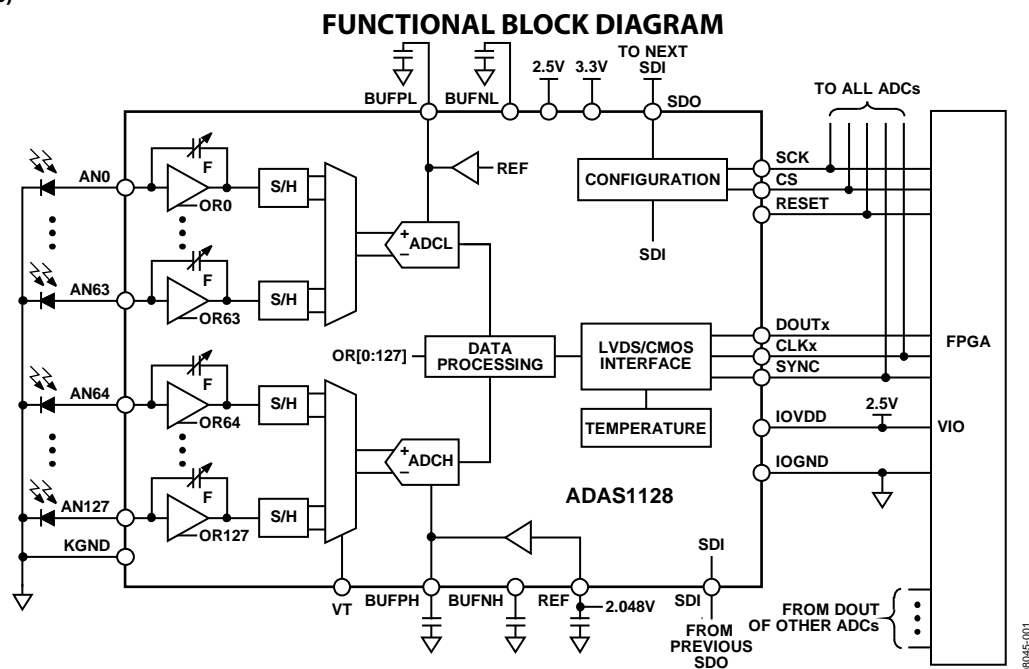


Figure 1.

Rev. SpB

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