

FEATURES

- 128-channel, low level current-to-digital converter
- Up to 24-bit resolution
- Up to 22.6 kSPS (44.2 μ s integration time)
- Simultaneous sampling
- No dead time, no loss of charge
- Ultralow noise down to 0.32 fC rms (2000 e^-)
- User adjustable full-scale range
- INL: $\pm 0.05\%$ of reading of ± 1.0 ppm FSR_I
- Low power dissipation: 2.25 mW per channel
- LVDS self clocked serial data interface
- Serial peripheral interface (SPI) configuration registers (daisy-chain capability)
- On-board temperature sensor and reference buffer
- 10 mm \times 10 mm, 242-ball CSP_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 **ADAS1134** 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, low voltage differential signaling (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 **ADAS1134** uses IOVDD, a separate supply, to reduce digital noise effect on the conversions.

The **ADAS1134** is available in a 10 mm \times 10 mm, 242-ball CSP_BGA package.

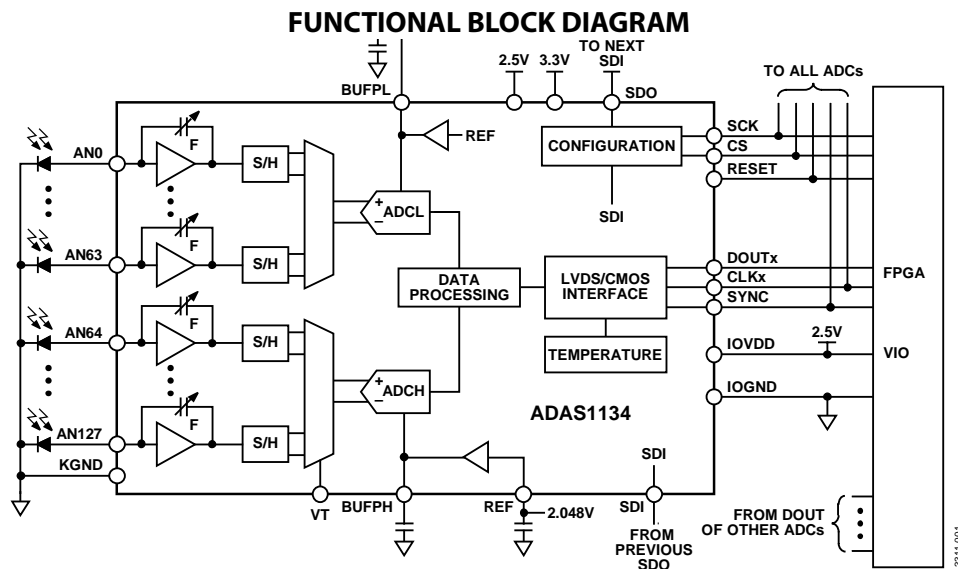


Figure 1.

For more information about the **ADAS1134**, contact Analog Devices, Inc., at adas@analog.com.

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