

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

Data Sheet ADAS1128

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-]) 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
SPI configuration registers (daisy-chain)
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

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)

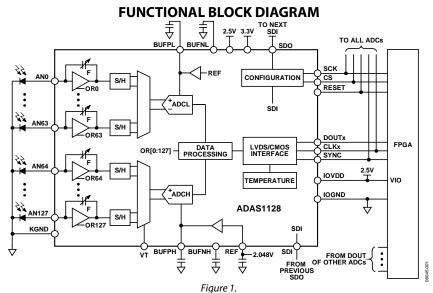
GENERAL DESCRIPTION

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 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 \times 10 mm, mini-BGA package.



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

Rev. SpD

Document Feedback
Information furnished by Analog Devices is believed to be accurate and reliable. However, no
responsibility is assumed by Analog Devices for its use, nor for any infringements of patents or other
rights of third parties that may result from its use. Specifications subject to change without notice. No
license is granted by implication or otherwise under any patent or patent rights of Analog Devices.

Trademarks and registered trademarks are the property of their respective owners.

One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106, U.S.A. Tel: 781.329.4700 ©2009–2015 Analog Devices, Inc. All rights reserved. Technical Support www.analog.com

ADAS1128 Data Sheet

NOTES

