

Analogue to Digital Converter, 12 bit, 10 MSPS, Differential, Single Ended, Parallel, Single, 2.7 V

Manufacturers	Analog Devices, Inc
Package/Case	SSOP-28
Product Type	Data Conversion ICs
RoHS	Pb-free Halide free
Lifecycle	



Images are for reference only

Please submit RFQ for AD9220ARSZ or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The AD9221, AD9223, and AD9220 are a generation of high performance, single supply 12-bit analog-to-digital converters. Each device exhibits true 12-bit linearity and temperature drift performance¹ as well as 11.5 bit or better ac performance². The AD9221/AD9223/AD9220 share the same interface options, package, and pinout. Thus, the product family provides an upward or downward component selection path based on performance, sample rate and power. The devices differ with respect to their specified sampling rate and power consumption which is reflected in their dynamic performance over frequency.

The AD9221/AD9223/AD9220 combine a low cost, high speed single-CMOS process and a novel architecture to achieve the resolution and speed of existing hybrid and monolithic implementations at a fraction of the power consumption and cost. Each device is a complete, monolithic ADC with an on-chip, high performance, low noise sample-and-hold amplifier and programmable voltage reference. An external reference can also be chosen to suit the dc accuracy and temperature drift requirements of the application. The devices use a multistage differential pipelined architecture with digital output error correction logic to provide 12-bit accuracy at the specified data rates and to guarantee no missing codes over the full operating temperature range.

The input of the AD9221/AD9223/AD9220 is highly flexible, allowing for easy interfacing to imaging, communications, medical, and data-acquisition systems. A truly differential input structure allows for both single-ended and differential input sample-interfaces of varying input spans. The sample-and-hold (SHA) amplifier is equally suited for both multiplexed systems that switch full-scale voltage levels in successive channels as well as sampling single-channel inputs at frequencies up to and beyond the Nyquist rate. Also, the AD9221/AD9223/AD9220 is well suited for communication systems employing IF Down Conversion since the SHA in the differential input mode can achieve excellent dynamic performance far beyond its specified Nyquist frequency².

A single clock input is used to control all internal conversion The digital output data is presented in straight binary format. An out-of-range (OTR) signal indicates an flow condition which can be used with the most significant bit to determine low or high overflow.

NOTES:1 Excluding internal voltage reference² Depends on the analog input configuration

Features

Monolithic 12-Bit A/D Converter Product Family

Family Members are: AD9221, AD9223, and AD9220

Flexible Sampling Rates: 1.5 MSPS, 3.0 MSPS, and 10 MSPS

Low Power Dissipation: 59 mW, 100 mW, and 250 mW

Single +5 V Supply

Integral Nonlinearity Error: 0.5 LSB

Differential Nonlinearity Error: 0.3 LSB

70 dB SNR and 86 dB SFDR

Out-of-Range Indicator

28-SOIC and 28-SSOP

Related Products



[ADAS3022BCPZ](#)

Analog Devices, Inc
LFCSP-40



[AD574AJNZ](#)

Analog Devices, Inc
PDIP-28



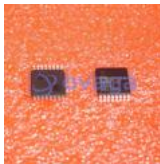
[AD7938BSUZ](#)

Analog Devices, Inc
TQFP-32



[AD7124-8BCPZ-RL7](#)

Analog Devices, Inc
LFCSP-32



[AD7266BSUZ](#)

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TQFP-32



[AD7401YRWZ](#)

Analog Devices, Inc
SOIC-16



[AD7192BRUZ-REEL](#)

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TSSOP-24



[AD9680BCPZ-500](#)

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LFCSP-64