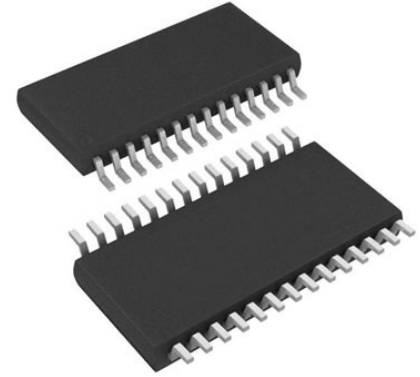12-Bit, 20/40/65 MSPS, 3 V Analog-to-Digital Converter; Package: TSSOP; No of Pins: 28; Temperature Range: Industrial

Manufacturers	Analog Devices, Inc
Package/Case	TSSOP-28
Product Type	Data Conversion ICs
RoHS	Rohs
Lifecycle	

Images are for reference only

Please submit RFQ for AD9235BRUZ-40 or Email to us: sales@ovaga.com We will contact you in 12 hours.   RFQ

General Description

The AD9235 is a family of monolithic, single 3 V supply, 12-bit, 20/40/65 MSPS analog-to-digital converters. This family features a high performance sample-and-hold amplifier (SHA) and voltage reference. The AD9235 uses a multistage differential pipelined architecture with output error correction logic to provide 12-bit accuracy at 20/40/65 MSPS data rates and guarantee no missing codes over the full operating temperature range.

The wide bandwidth, truly differential SHA allows a variety of user-selectable input ranges and offsets including single-ended applications. It is suitable for multiplexed systems that switch full-scale voltage levels in successive channels and for sampling single-channel inputs at frequencies well beyond the Nyquist rate. Combined with power and cost savings over previously available analog-to-digital converters, the AD9235 is suitable for applications in communications, imaging, and medical ultrasound.

A single-ended clock input is used to control all internal conversion cycles. A duty cycle stabilizer (DCS) compensates for wide variations in the clock duty cycle while maintaining excellent overall ADC performance. The digital output data is presented in straight binary or twos complement formats. An out-of-range (OTR) signal indicates an overflow condition that can be used with the most significant bit to determine low or high overflow.

Fabricated on an advanced CMOS process, the AD9235 is available in a 28-lead thin shrink small outline package (TSSOP) and a 32-lead chip scale package (LFCSP) and is specified over the industrial temperature range (-40°C to +85°C).

APPLICATIONS

PRODUCT HIGHLIGHTS

The AD9235 operates from a single 3 V power supply and features a separate digital output driver supply to accommodate 2.5 V and 3.3 V logic families.

Operating at 65 MSPS, the AD9235 consumes a low 300 mW.

The patented SHA input maintains excellent performance for input frequencies up to 100 MHz and can be configured for single-ended or differential operation.

The AD9235 pinout is similar to the AD9214-65, a 10-bit, 65 MSPS ADC. This allows a simplified upgrade path from 10 bits to 12 bits for 65 MSPS systems.

The clock DCS maintains overall ADC performance over a wide range of clock pulse widths.

The OTR output bit indicates when the signal is beyond the selected input range.

Features

Single +3 V Supply Operation (2.7 V to 3.6 V)

Low Power: 300 mW at 65 MSPS

On-Chip Reference and SHA

Differential Input with 500 MHz Bandwidth

DNL of ±0.4 LSB

Flexible Analog Input: 1 Vp-p to 2 Vp-p

Offset Binary or Twos Complement Data Format

Clock Duty Cycle Stabilizer

Pin out Migration to Either AD9215, AD9236, AD9245

Application

Ultrasound equipment

IF sampling in communications receivers

Battery-powered instruments

Hand-held scopemeters

Low cost digital oscilloscopes

Related Products

[ADAS3022BCPZ](#)

Analog Devices, Inc

LFCSP-40

[AD574AJNZ](#)

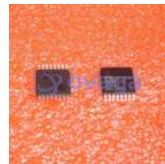Analog Devices, Inc

PDIP-28

[AD7938BSUZ](#)

Analog Devices, Inc

TQFP-32

[AD7124-8BCPZ-RL7](#)

Analog Devices, Inc

LFCSP-32

[AD7266BSUZ](#)

Analog Devices, Inc

TQPF-32

[AD7401YRWZ](#)

Analog Devices, Inc

SOIC-16

[AD7192BRUZ-REEL](#)

Analog Devices, Inc

TSSOP-24

[AD9680BCPZ-500](#)

Analog Devices, Inc

LFCSP-64