

8-Channel Single ADC SAR 250ksps 16-bit Serial 20-Pin LFCSP EP T/R

Manufacturers	<a href="#">Analog Devices, Inc</a>
Package/Case	20LFCSP
Product Type	Data Conversion ICs
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for AD7689ACPZRL7 or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The AD7682/AD7689 are 4-channel/8-channel, 16-bit, charge redistribution successive approximation register (SAR) analog-to-digital converters (ADCs) that operate from a single power supply, VDD.

The AD7682/AD7689 contain all components for use in a multichannel, low power data acquisition system, including a true 16-bit SAR ADC with no missing codes; a 4-channel (AD7682) or 8-channel (AD7689) low crosstalk multiplexer that is useful for configuring the inputs as single-ended (with or without ground sense), differential, or bipolar; an internal low drift reference (selectable 2.5 V or 4.096 V) and buffer; a temperature sensor; a selectable one-pole filter; and a sequencer that is useful when channels are continuously scanned in order.

The AD7682/AD7689 use a simple serial port interface (SPI) for writing to the configuration register and receiving conversion results. The SPI interface uses a separate supply, VIO, which is set to the host logic level. Power dissipation scales with throughput.

The AD7682/AD7689 are housed in a tiny 20-lead lead frame chip scale package (LFCSP) and 20-lead wafer level chip scale package (WLCSPP) with operation specified from  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ . The AD7689 includes an extended temperature range model with specifications guaranteed to a maximum temperature (TMAX) of  $+125^{\circ}\text{C}$ .

## Features

Download . Available as Known Good Die and fully guaranteed to data sheet specifications.

16-bit resolution with no missing codes

4-channel (AD7682)/8-channel (AD7689) multiplexer with choice of inputs

Unipolar single-ended

Differential (GND sense)

Pseudobipolar

## Application

Multichannel system monitoring

Battery-powered equipment

Medical instruments: ECG/EKG

Mobile communications: GPS

Power line monitoring

Data acquisition

Throughput: 250 kSPS

Seismic data acquisition systems

INL:  $\pm 0.4$  LSB typical,  $\pm 1.5$  LSB maximum ( $\pm 23$  ppm or FSR)

Instrumentation

Dynamic range: 93.8 dB

Process control

SINAD: 92.5 dB at 20 kHz

THD:  $-100$  dB at 20 kHz

Analog input range: 0 V to VREF with VREF up to VDD

Multiple reference types

Internal selectable 2.5 V or 4.096 V

External buffered (up to 4.096 V)

External (up to VDD)

Internal temperature sensor (TEMP)

Channel sequencer, selectable 1-pole filter, busy indicator

No pipeline delay, SAR architecture

Single-supply 2.3 V to 5.5 V operation with 1.8 V to 5.5 V logic interface

Serial interface compatible with SPI, MICROWIRE, QSPI, and DSP

Power dissipation

3.5 mW at 2.5 V/200 kSPS

12.5 mW at 5 V/250 kSPS

Standby current: 50 nA

Low cost grade available

20-lead 4 mm  $\times$  4 mm LFCSP package

20-lead 2.4 mm  $\times$  2.4 mm WLCSP package



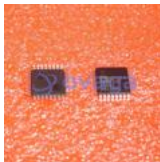


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LFCSP-40



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#### [AD7401YRWZ](#)

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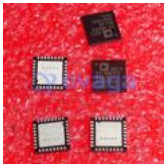
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