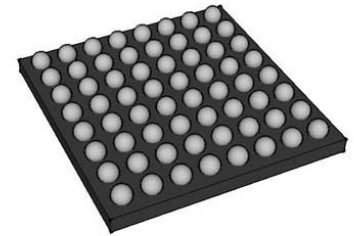


AFE General Purpose 8 ADC 24bit 1.8V/3V 64-Pin NFBGA T/R



Images are for reference only

[Inquiry](#)

Manufacturer: [Texas Instruments, Inc](#)

Package/Case: NFBGA64

Product Type: Data Conversion ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

General Description

The ADS1294, ADS1296, ADS1298 (ADS129x) and ADS1294R, ADS1296R ADS1298R (ADS129xR) are a family of multichannel, simultaneous sampling, 24-bit, delta-sigma ($\Delta\Sigma$) analog-to-digital converters (ADCs) with built-in programmable gain amplifiers (PGAs), internal reference, and an onboard oscillator. The ADS129x and ADS129xR incorporate all of the features that are commonly required in medical electrocardiogram (ECG) and electroencephalogram (EEG) applications. With high levels of integration and exceptional performance, the ADS129x and ADS129xR enables the development of scalable medical instrumentation systems at significantly reduced size, power, and overall cost.

The ADS129x and ADS129xR have a flexible input multiplexer (mux) per channel that can be independently connected to the internally-generated signals for test, temperature, and lead-off detection. Additionally, any configuration of input channels can be selected for derivation of the right leg drive (RLD) output signal. The ADS129x and ADS129xR operate at data rates as high as 32 kSPS, thereby allowing the implementation of software pace detection. Lead-off detection can be implemented internal to the device, either with a pullup or pulldown resistor, or an excitation current sink or source. Three integrated amplifiers generate the Wilson central terminal (WCT) and the Goldberger central terminals (GCT) required for a standard 12-lead ECG. The ADS129xR versions include a fully integrated, respiration impedance measurement function. Multiple ADS129x and ADS129xR devices can be cascaded in high channel count systems in a daisy-chain configuration.

Package options include a tiny 8-mm \times 8-mm, 64-ball BGA, and a TQFP-64. The ADS129x BGA version is specified over the commercial temperature range of 0°C to 70°C. The ADS129xR BGA and ADS129x TQFP versions are specified over the industrial temperature range of -40°C to +85°C.

Key Features

Eight Low-Noise PGAs and Eight High-Resolution ADCs (ADS1298, ADS1298R)

Low Power: 0.75 mW/channel

Input-Referred Noise: $4 \hat{I}/4V$

PP

Input Bias Current: 200 pA

Data Rate: 250 SPS to 32 kSPS

CMRR: -115 dB

Programmable Gain: 1, 2, 3, 4, 6, 8, or 12

Supports systems meeting AAMI EC11, EC13, IEC60601-1, IEC60601-2-27, and IEC60601-2-51 Standards

Unipolar or Bipolar Supplies:

AVDD = 2.7 V to 5.25 V

DVDD = 1.65 V to 3.6 V

Built-In Right Leg Drive Amplifier, Lead-Off Detection, Wilson Center Terminal, Pace Detection, Test Signals

Integrated Respiration Impedance Measurement

Digital Pace Detection Capability

Built-In Oscillator and Reference

SPI™-Compatible Serial Interface

Recommended For You

ADS8326IDGKT

Texas Instruments, Inc

MSOP8

ADS7816U

Texas Instruments, Inc

SOP8

ADS1110A0IDBVR

Texas Instruments, Inc

SOT23-6

ADS1015BQDGSRQ1

Texas Instruments, Inc

VSSOP-10

ADS7805UB

Texas Instruments, Inc

SOP28

ADS774KU

Texas Instruments, Inc

SOP28

ADS7846E

Texas Instruments, Inc

SSOP16

ADS8344NB

Texas Instruments, Inc

SSOP20

ADS1254E

Texas Instruments, Inc

SSOP20

ADS7842E

Texas Instruments, Inc

SSOP28

ADS1282IPW

Texas Instruments, Inc

TSSOP-28

ADS7843E/2K5

Texas Instruments, Inc

SSOP16

ADS1226IRGVT

Texas Instruments, Inc

QFN16

ADS825E

Texas Instruments, Inc

SSOP28

ADS7825U

Texas Instruments, Inc

SOP28