AS1524/AS1525

ProductBrief

Micro-Power, 12-Bit, 150ksps, ADC, Single Ended or Differential

1 General Description

The AS1524/AS1525 are low-power, 12-bit analog-to-digital converters (ADCs) designed to operate with a single +2.7 to +5.25V supply. Excellent dynamic performance, low power consumption, and simplicity make these devices perfect for portable battery-powered data-acquisition applications.

The devices are available as the standard products listed in Table 1.

Table 1. Standard Products

Model	Input Type	Input Voltage
AS1524	1-Channel, Pseudo / True-Differential	0 to VREF / -VREF/2 to VREF/2
AS1525	2-Channel, Single-Ended	0 to VREF

The devices feature a successive-approximation register (SAR), automatic shutdown, fast wakeup (1.4µs), and low-power consumption at the maximum sampling rate of 150ksps.

Automatic shutdown (0.2µA) between conversions results in reduced power consumption (at slower throughput rates).

Data access are made via an external clock through the SPI-/QSPI-/MICROWIRE-compatible 3-wire high-speed serial interface.

The AS1525/AS1524 are available in a 8-pin TDFN (3x3mm) package.

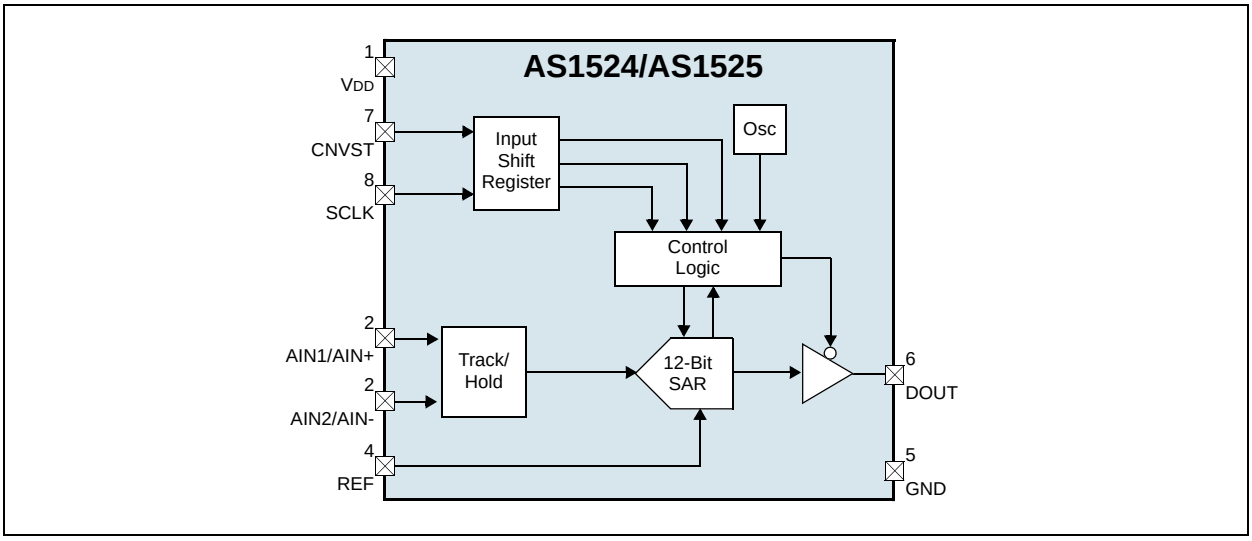
2 Key Features

- Single-Supply Operation: +2.7 to +5.25V
- Automatic Shutdown Between Conversions
- Low Power Consumption
  - 350µA @ 150ksps
  - 245µA @ 100ksps
  - 24µA @ 10ksps
  - 2.5µA @ 1ksps
  - 200nA in Automatic Shutdown Mode
- True-Differential Track/Hold, 150kHz Sampling Rate Software-Configurable Unipolar/Bipolar Conversion (AS1524)
- Input Common Mode Range from GND to VDD
- 3-Wire SPI-/QSPI-/MICROWIRE-Compatible Serial Interface
- Internal Conversion Clock
- 8-pin TDFN (3x3mm) Package

3 Applications

The devices are ideal for remote sensors, data-acquisition, data logging devices, lab instruments, or for any other space-limited A/D devices with low power consumption and single-supply requirements.

Figure 1. Block Diagram



Copyrights

Copyright © 1997-2007, austriamicrosystems AG, Schloss Premstaetten, 8141 Unterpremstaetten, Austria-Europe. Trademarks Registered ®. All rights reserved. The material herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner.

All products and companies mentioned are trademarks or registered trademarks of their respective companies.

Disclaimer

Devices sold by austriamicrosystems AG are covered by the warranty and patent indemnification provisions appearing in its Term of Sale. austriamicrosystems AG makes no warranty, express, statutory, implied, or by description regarding the information set forth herein or regarding the freedom of the described devices from patent infringement. austriamicrosystems AG reserves the right to change specifications and prices at any time and without notice. Therefore, prior to designing this product into a system, it is necessary to check with austriamicrosystems AG for current information. This product is intended for use in normal commercial applications. Applications requiring extended temperature range, unusual environmental requirements, or high reliability applications, such as military, medical life-support or life-sustaining equipment are specifically not recommended without additional processing by austriamicrosystems AG for each application. For shipments of less than 100 parts the manufacturing flow might show deviations from the standard production flow, such as test flow or test location.

The information furnished here by austriamicrosystems AG is believed to be correct and accurate. However, austriamicrosystems AG shall not be liable to recipient or any third party for any damages, including but not limited to personal injury, property damage, loss of profits, loss of use, interruption of business or indirect, special, incidental or consequential damages, of any kind, in connection with or arising out of the furnishing, performance or use of the technical data herein. No obligation or liability to recipient or any third party shall arise or flow out of austriamicrosystems AG rendering of technical or other services.

Contact Information

Headquarters
austriamicrosystems AG
A-8141 Schloss Premstaetten, Austria

Tel: +43 (0) 3136 500 0
Fax: +43 (0) 3136 525 01

For Sales Offices, Distributors and Representatives, please visit:

http://www.austriamicrosystems.com/contact