

AS1526, AS1527

10-Bit, Single Supply, Low-Power, 73ksps A/D Converters

1 General Description

The AS1526/AS1527 are low-power, 10-bit, 73ksps analog-to-digital (A/D) converters specifically designed for single-supply A/D applications. Superior AC characteristics, very low power consumption, and robust packaging make these ultra-small devices perfect for battery-powered analog-data collection devices.

The integrated successive-approximation register (SAR) and a fast (1.5 μ s) sampling track/hold time provide an economic and highly-reliable A/D conversion solution.

The AS1526/AS1527 operate from a single 2.7 to 3.6V supply. The AS1527 requires an external reference, using less power than the AS1526, however, the AS1526 features an internal 2.5V reference.

As with the AS1527, the AS1526 can also be used with an external reference, which uses the input range 0V to V_{REF}, including the positive supply range.

The AS1527 consumes only 3mW (V_{DD} = 3V) at the 73ksps maximum sampling speed. Both devices feature a low-current (0.3 μ A) shutdown mode, which reduces power consumption at slower throughput rates.

Data accesses are made via the standard, high-speed 3-wire serial interface, which is SPI-, QSPI-, and Microwire-compatible. Both devices contain an internal clock, however, both devices also support an external clock for increased flexibility.

The AS1526/AS1527 are available in an 8-pin SOIC-150 package.

Product Brief

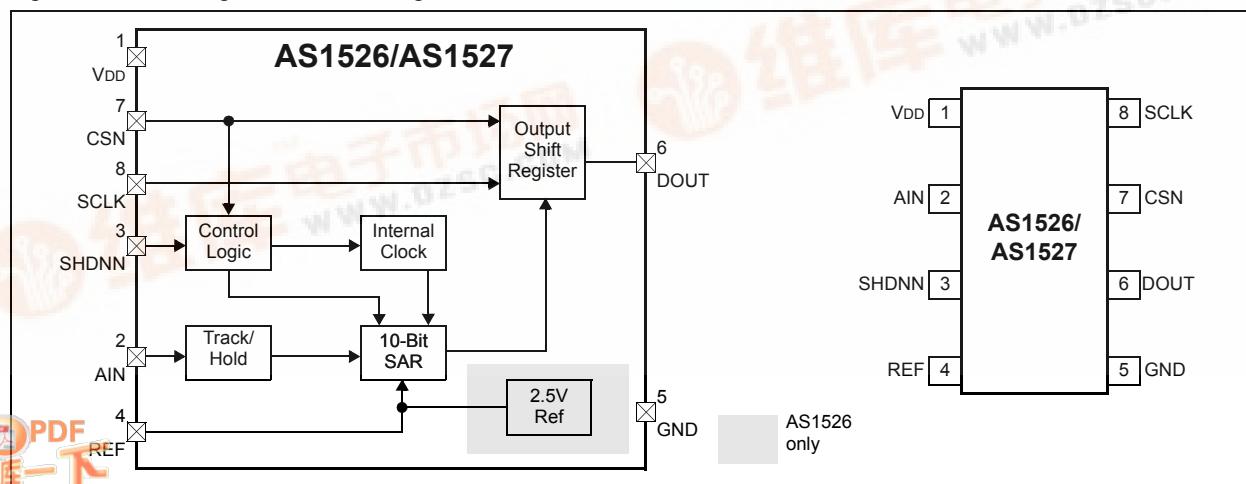
2 Key Features

- 10-Bit Resolution with 7.5 μ s Conversion Time
- Sampling Rate: 73ksps
- Straight Binary (Unipolar) Data Format
- Single-Supply Operation: +2.7 to +3.6V
- Internal 2.5V Reference (AS1526)
- Low Power-Consumption:
 - 4mW (73ksps, AS1526)
 - 3mW (73ksps, AS1527)
 - 66 μ W (1ksps, AS1527)
 - 1 μ W (Shutdown Mode)
- Integrated Track/Hold Amplifier
- Internal Clock
- SPI/QSPI/Microwire 3-Wire Serial Interface
- Operating Temperature Range: -40 to +85°C
- 8-pin SOIC-150 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 and Pin Assignments



Copyrights

Copyright © 1997-2006, 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.

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>