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AK9242/43**AFE with Dual 16/14-Bit 1.1MSPS ZDS A/D Converter****General Description**

The AK9242/43 are Analog Front Ends with 16/14-bit 1.1MSPS ZDS* A/D converters. They integrate a programmable gain amplifier (PGA) that is able to select the input current and the input voltage realizing to control the input range. A polar coordinate calculation function is also integrated, and it reduces the load of DSP or microcomputer. The AK9242/43 are housed in a space-saving 24-pin QFN package.

* ZDS: Zero latency Delta Sigma

A ZDS A/D converter realizes ultrafast response of SAR with maintaining high accuracy conversion like a delta-sigma converter, based on AKM's accumulated experience and know-how in analog-digital LSI technology. It contributes to improve the speed and the accuracy of negative feedback system.

A ZDS A/D converter can achieve small and high accurate motor systems.

Features

- Simultaneous Sampling 16/14-bit ZDS A/D Converter
- Sampling Rate: 1.1MSPS
- Differential Inputs
- Current Input or Voltage Input Selectable
- PGA Function
- Low Pass Filter
- S/N:

81 dBFS (Typ.) at 10kHz Input	(AK9242)
80 dBFS (Typ.) at 10kHz Input	(AK9243)
- 16bit No Missing Code, INL: ± 2 LSB (Typ.) (AK9242)
- 14bit No Missing Code, INL: ± 1 LSB (Typ.) (AK9243)
- Polar coordinate calculation function
- Offset/Gain adjustment function
- Power Consumption: 253mW/ch (fs= 1.1MSPS, HVDD=5V,DRVDD=3V)
- Power Supply: HVDD: 4.75 ~ 5.25V
DRVDD: 2.7 ~ 5.25V
- Operational Temperature Range (Ta): -40 ~ 105°C
- Small Package: 24-pin QFN (4mm x 4mm)

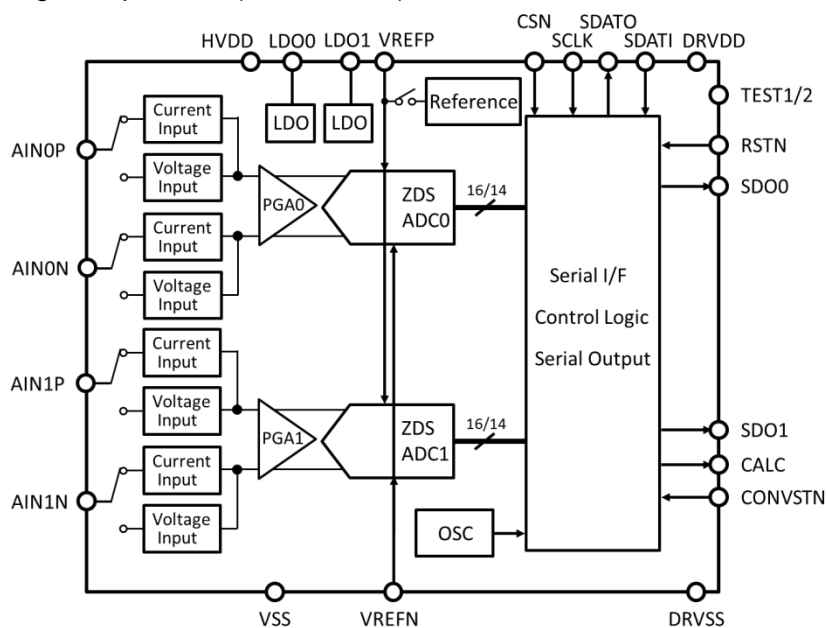


Figure 1. Block Diagram

Thank you for your access to AKM product information.

**More detail product information is available,
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