24-bit 31.25KSPS Multi-channel Analog-to-Digital Converter (ADC)

1 Main features:

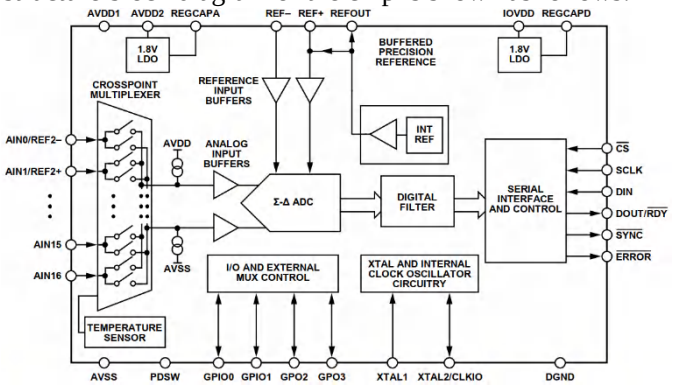
- Conversion Bits: 24 Bits
- Throughput rate: 1.25SPS to 31.25KSPS
- Channel scan data rate: 6.21KSPS/channel
- Operating voltage: 3.3V or 5V
- Working current: 1.4mA
- INL：±3ppm/FSR
- 31.25KSPS Noise free resolution: 17.5 Bits
- 1.25SPS Noise free resolution: 24 Bits
- CRC check
- SPI serial interface:
- Package: 40-pin LFCSP
- Temperature range: -40°C to +105°C

2. Typical applications

- Voltage, current, temperature and pressure measurement
- flowmeter
- Medical and scientific multi-channel instruments
- Seismic instrument
- Chemical analytical instrument

3 Product Description

This chip is a 24-bit, Sigma-Delta analog-to-digital converter (ADC) with fast setup, high precision and low power consumption. The chip is suitable for low-bandwidth input signals, and has integrated precision input signal buffer and reference voltage buffer, 2.5V high -precision reference voltage source, oscillator and other modules. Flexible configuration of output data rate, digital filter mode, offset/gain error calibration, reference voltage selection and buffer enable. Diagnostic functions are also integrated, including CRC, register checksum, temperature sensor, cross multiplexer, and GPIO/GPO pins. The chip is compatible with foreign products AD7173 pins and can be replaced. The functional structure block diagram of the chip is shown as follows:



4 Product Highlights

- Low power consumption, high precision design
- Multichannel signal input
- High integration

5 Compared with similar foreign products

	precision	Conversion rate	Data port	Power dissipation	Noiseless resolution	Integral nonlinearity	Encapsulation form
AD7173（ADI）	24-bit	31.25kSPS	serial	3~20mW	17.5bits	±3ppm/FSR	LFCSP-40
HL7173	24-bit	31.25kSPS	serial	3~20mW	17.5bits	±3ppm/FSR	LFCSP-40

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