12-bit 500KSPS single-channel Analog-to-Digital Converter (ADC)

1 Main features:

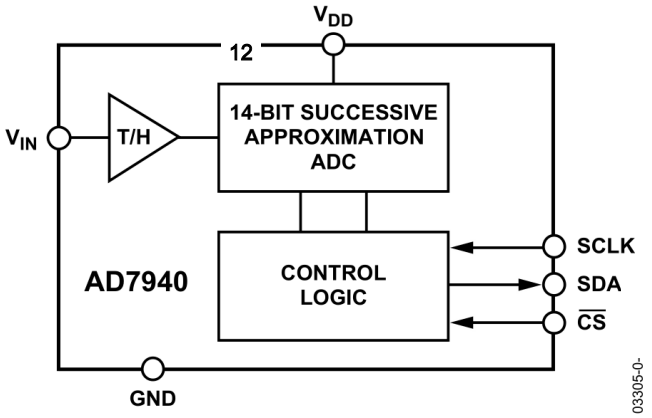
- Conversion bits: 12 bits
- Throughput rate: 500 KSPS
- Low power consumption: 3~10mW
- INL：±2LSB(Typical value)
- SNDR：70dB@10kHz input
- THD：-90dB@10kHz input
- Pseudo differential input range: $0 \sim V_{DD}$（V_{DD}=2.5~5.5）
- Pipeline-free delay
- Serial interface: SPI compatible
- Encapsulation：SOT23

2. Typical applications

- Battery powered equipment
- communication
- Automatic test equipment
- Data acquisition
- Medical instrument

3 Product Description

This chip is a 12-bit, successive approximation analog-to-digital converter (ADC), which uses a single power supply, and the power supply voltage is used as the reference signal of the ADC, which greatly simplifies the peripheral circuit of the chip. It has a low-power, high-precision 12-bit sampling ADC and a serial interface port. At the falling edge of the CS, the device samples the analog input voltage of the VIN port, ranging from 0 to VDD. This chip is compatible with foreign products AD7476 pins, which can be replaced. The functional structure block diagram of the chip is shown as follows:



4 Product Highlights

- Minimalist package design
- The power supply ranges from 2.5 to 5.5V
- Ultra-low power standby mode

5 Compared with similar foreign products

	precision	Conversion rate	Data port	Power dissipation	SNDR	THD	Encapsulation form
AD7476（ADI）	12-bit	500KSPS	serial	3~10mW	70dB@10 kHz	-90dB@10kHz	SOT23
HL7976	12-bit	500KSPS	serial	3~10mW	70dB@10 kHz	-90dB@10kHz	SOT23

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