



16-bit 100KSPS 64-channel Analog-to-Digital Converter (ADC)

1 Main features:

- ◆ Conversion bits: 16 bits
- ◆ Conversion rate: 100KSPS
- ◆ Number of channels: 64
- ◆ +5V single power supply
- ◆ Input range: ±10V
- ◆ Power consumption: ≤100mW
- ◆ External and internal 2.5V benchmarks are available
- ◆ High speed serial/parallel interface
- ◆ Clock on chip
- ◆ encapsulation: PGA-192

2 Typical Applications

- ◆ Industrial program control
- ◆ Multi-channel data acquisition
- ◆ Digital signal processing

3 Product Description

This product is a high-speed, low-power, 16-bit, 64-channel sampling analog-to-digital converter powered by a single +5V power supply. The HL9764 has a successive approximation switching capacitor ADC, a 2.5V internal reference voltage source, and a high-speed parallel interface with a maximum power consumption of 100mW. After calibration, all linear errors are minimized. Simulate the standard industry range of ±10V for full scale inputs. HL9764 data throughput of 100KSPS, integrated high-speed parallel interface, can be directly connected to the microprocessor for data processing.

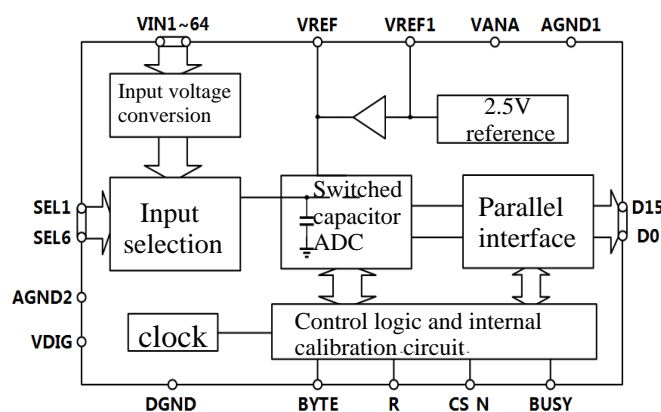
5 Compared with similar foreign products

	passage	precision	Conversion rate	Data port	Power dissipation	Input range	SFDR	Encapsulation Form
AD976 (ADI)	1	16Bit	100KSPS	parallel	100mW	±10V	90dB@2kHz	SSOP28
LTC1605-1 (ADI)	1	16Bit	100KSPS	parallel	60mW	±10V	100dB@2kHz	SSOP28
HL9764	64	16Bit	100KSPS	parallel	60mW	±10V	92dB@2kHz	PGA192

HL9764 adopts continuous approximation technique for analog input voltage. The device uses capacitor array charge distribution technology instead of traditional laser modified step resistors. The input is subdivided into binary weighted capacitance networks

Perform real analog-to-digital conversion. The resistance value of the device is not matched due to temperature induction, and the linear variation can be eliminated by using capacitor array. Since the chip consists of a capacitor array, the sampling/hold function is performed on it

No additional external circuitry is required. The internal structure block diagram of the chip is as follows:



4 Product Highlights

- ◆ Using resistance voltage division to achieve a single power supply +5V power supply, the input range can reach ±10V.
- ◆ Supports external reference voltage or internal reference voltage.
- ◆ It is manufactured using CMOS process technology and uses special switching technology to enhance dynamic performance.
- ◆ Complete calibration before leaving the factory.