20-Bit Sigma-Delta ADC; Package: SOIC - Wide; No of Pins: 20; Temperature Range: Industrial

Manufacturers	Analog Devices, Inc
Package/Case	SOIC-20
Product Type	Data Conversion ICs
RoHS	Rohs
Lifecycle	

Images are for reference only

Please submit RFQ for AD7703BRZ or Email to us: sales@ovaga.com We will contact you in 12 hours.   RFQ

General Description

The AD7703 is a 20-bit ADC that uses a Σ-Δ conversion technique. The analog input is continuously sampled by an analog modulator whose mean output duty cycle is proportional to the input signal. The modulator output is processed by an on-chip digital filter with a six-pole Gaussian response, which updates the output data register with 16-bit binary words at word rates up to 4 kHz. The sampling rate, filter corner frequency, and output word rate are set by a master clock input that may be supplied externally, or by a crystal controlled on-chip clock oscillator.

The inherent linearity of the ADC is excellent and endpoint accuracy is ensured by self-calibration of zero and full scale, which may be initiated at any time. The self-calibration scheme can also be extended to null system offset and gain errors in the input channel.

The output data is accessed through a flexible serial port, which has an asynchronous mode compatible with UARTs and two synchronous modes suitable for interfacing to shift registers or the serial ports of industry-standard microcontrollers.

CMOS construction ensures low power dissipation, and a power-down mode reduces the idle power consumption to only 10 μW.

Product Highlights

The AD7703 offers 20-bit resolution coupled with outstanding 0.0003% accuracy.

No missing codes ensures true, usable, 20-bit dynamic range, removing the need for programmable gain and level-setting circuitry.

The effects of temperature drift are eliminated by on-chip self-calibration, which removes zero and gain error. External circuits can also be included in the calibration loop to remove system offsets and gain errors.

Flexible synchronous/asynchronous interface allows the AD7703 to interface directly to the serial ports of industry-standard microcontrollers and DSP processors.

Low operating power consumption and an ultralow power standby mode make the AD7703 ideal for loop-powered remote sensing applications, or battery-powered portable instruments.

Features

Monolithic 16-Bit ADC

0.0015% Linearity Error

On-Chip Self-Calibration Circuitry

Programmable Low-Pass Filter

0.1 Hz to 10 Hz Corner Frequency

0 V to +2.5 V or 2.5 V Analog Input Range

4 kSPS Output Data Rate

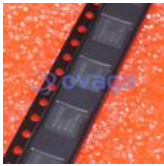Flexible Serial Interface

Ultralow Power

Application

Industrial Process Control

Weigh Scales

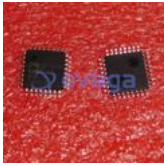Portable InstrumentationRemote Data Acquisition

Related Products

ADAS3022BCPZ

Analog Devices, Inc
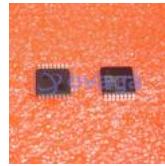
LFCSP-40

AD7266BSUZ

Analog Devices, Inc

TQPF-32

AD574AJNZ

Analog Devices, Inc

PDIP-28

AD7401YRWZ

Analog Devices, Inc

SOIC-16

AD7938BSUZ

Analog Devices, Inc

TQFP-32

AD7192BRUZ-REEL

Analog Devices, Inc

TSSOP-24

AD7124-8BCPZ-RL7

Analog Devices, Inc

LFCSP-32

AD9680BCPZ-500

Analog Devices, Inc

LFCSP-64