16bit, 8-Channel, Simultaneous Sampling ADC with Bipolar inputs

Features

- 8 simultaneously sampled inputs
- Single 5V analog supply and 1.71 to 5V V_{DRIVE}
- 16bit ADC with 350 kSPS on all channels
- Bipolar inputs ranges: ±10V, ±5V
- Analog input clamp protection
- 1 MΩ analog input impedance
- On chip reference and buffer
- On chip oversampling digital filter
- SPI compatible interface
- Temperature range: -40℃ to 125℃
- Package: LQFP10X10-64

Applications

- Power line monitor
- Power line protection relays
- Motor control
- Data acquisition system (DAS)
- Industrial Automation and controls

Description

TPAFE516 is a 16bit, 8-channel simultaneous sampling, successive approximation (SAR) ADC. Each channel has a complete analog front end, as well as an ADC operating at 350 kSPS per channel. The analog front end features input clamp, a programmable gain amplifier (PGA) with high input impedance of 1MΩ, low pass filter and ADC input driver.

The device features an internal precision reference with buffer to driver the ADC. A digital interface supports serial, parallel and parallel byte communication, which can be used with varies host controllers.

The TPAFE516 can accept ±10V or ± 5V true bipolar inputs with a single 5V supply. Also the high input impedance allows direct connection to transformers or other sensors without external driver circuits.

The zero latency conversion with high performance also makes the device suitable for industrial automation and control applications.

Typical Application Circuit