



14-bit Sigma-Delta-ADC

Features

- Fully integrated high precision analog-to-digital converter
- VDD = 1.5V with 3.3V digital interface, Low power consumption
- Input bandwidth: 200kHz
- SPI-compatible interface
- Fast conversion speed, 14-bit ENOB @ 500kSPS (parallel)
- Programmable output data rate and resolution

General Description

IMST developed a discrete high resolution 14-bit $\Delta\Sigma$ -ADC with a high output data

rate. The complete ADC is fully integrated and designed in a 130nm-CMOS Technology (1.5V). No external passive components are required. The ADC architecture employs a 2nd-order sigma-delta modulator with a single-bit output data stream. The following digital part consists of a 3-stage digital filtering and offset / gain correction for the sigma-delta modulator.

By controlling the conversion speed and the resolution through an SPI-compatible serial interface, the $\Delta\Sigma$ -ADC is very interesting for a wide area of applications.

Block diagram of the 14-bit $\Delta\Sigma$ -ADC

