



4 CHANNELS, 24-BIT Σ - Δ ADC WITH INPUT OFFSET DAC (RDAS)



SCL Part No.

SC1213-0

FEATURES:

- 4 Multiplexed Differential Input Channel
- 24 Bits Σ - Δ ADC
- No missing code¹
- PGA from 1 to 128 (Binary Steps)
- 8-Bit Input Offset DAC at each PGA
- Two 8 Bits IDAC (three different range)
- 0.020% INL
- 19 Bits ENOB (PGA = 1, OSR=2048)
- 12 Bits ENOB (PGA = 128, OSR=2048)
- Programmable Data Rate upto 5KSPS
- Precision on-chip 1.22V Reference Accuracy: 1.0%, Drift: ± 40 ppm
- On-chip Calibrations
- SPI Compatible
- 2.97V TO 3.6V
- < 10mW POWER CONSUMPTION²

PRODUCT DESCRIPTION:

The RDAS is a precision, wide range, Sigma-Delta, Analog-to-Digital converter with 24-bit resolution operating from 2.97 V to 3.6V for sensor signal conditioning application. It has fully four differential multiplexed channels. The PGA (Programmable Gain Amplifier) provides selectable gains of 1 to 128 in binary steps with an effective resolution of 19 bits at PGA 1 and OSR of 2048. It uses a second order Sigma Delta Modulator that converts the analog input signal in to a digital pulse train whose average duty cycle represents the digitized signal information. The pulse train is then processed by a digital sinc3 filter to produce a digital output.

The decimation ratio of the digital filter can be programmed by user either to achieve higher accuracy or higher throughput. SC1213-0 has digitally on-chip offset and gain calibration. It also contains 8 Bits Input offset DAC for adjusting the offset and two 8-bits current DAC with three different ranges.

The serial interface is SPI Compatible.

