

16, 14 & 12-Bit, Self-Calibrating A/D Converters

Features

- Monolithic CMOS A/D Converters
Microprocessor Compatible
Parallel and Serial Output
Inherent Track/Hold Input
- True 12, 14 and 16-Bit Precision
- Conversion Times:
CS5016 16.25 μ s
CS5014 14.25 μ s
CS5012A 7.2 μ s
- Self Calibration Maintains Accuracy
Over Time and Temperature
- Low Power Dissipation: 150 mW
- Low Distortion

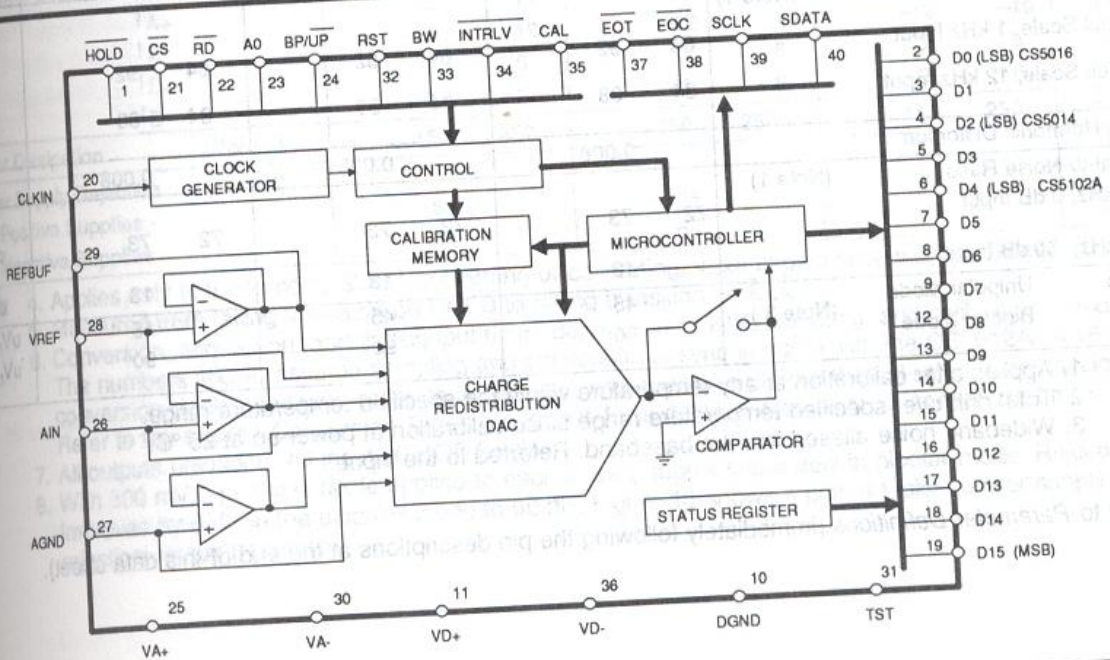
General Description

The CS5012A/14/16 are 12, 14 and 16-bit monolithic analog to digital converters with conversion times of 7.2 μ s, 14.25 μ s and 16.25 μ s. Unique self-calibration circuitry insures excellent linearity and differential non-linearity, with no missing codes. Offset and full scale errors are kept within 1/2 LSB (CS5012A/14) and 1 LSB (CS5016), eliminating the need for calibration. Unipolar and bipolar input ranges are digitally selectable.

The pin compatible CS5012A/14/16 consist of a DAC, conversion and calibration microcontroller, oscillator, comparator, microprocessor compatible 3-state I/O, and calibration circuitry. The input track-and-hold, inherent to the devices' sampling architecture, acquires the input signal after each conversion using a fast slewing on-chip buffer amplifier. This allows throughput rates up to 100 kHz (CS5012A), 56 kHz (CS5014) and 50 kHz (CS5016).

An evaluation board (CDB5012/14/16) is available which allows fast evaluation of ADC performance.

ORDERING INFORMATION: Pages 3-45 & 3-46



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