SILICON360

ADC0801S040:

Single 8 Bits ADC, Up to 40 MHz

Product Feature Sheet

Features

- 8-bit resolution
- Operation between 2.7 V and 5.5 V
- Sampling rate up to 40 MHz
- DC sampling allowed
- High signal-to-noise ratio over a large analog input frequency range (7.3 effective bits at 4.43 MHz full-scale input at fclk = 40 MHz)
- CMOS/TTL compatible digital inputs and outputs
- External reference voltage regulator
- Power dissipation only 30 mW (typical value)
- Low analog input capacitance, no buffer amplifier required
- Sleep mode (4 mW)
- No sample-and-hold circuit required

Typical Applications

- Video data digitizing
- Camera
- Camcorder
- Radio communication
- Car alarm system

Device Overview

The ADC0801S040 is an 8-bit universal analog-to-digital converter (ADC) for video and general purpose applications. It converts the analog input signal from 2.7 V to 5.5 V into 8-bit binary-coded digital words at a maximum sampling rate of 40 MHz. All digital inputs and outputs are CMOS/ Transistor-Transistor Logic (TTL) compatible. A sleep mode allows reduction of the device power consumption to 4 mW.

Absolute Maximum Ratings:

Analog Supply Voltage	2.7 V to 5.5 V
Digital Supply Voltage	2.7 V to 5.5 V
Output Supply Voltage	2.5 V to 5.5 V
Supply Voltage Difference (V_{DDA} - V_{DDD})	-0.2 V to +0.2 V
Supply Voltage Difference (V_{DDD} - V_{DDO})	-02 V to +2.25 V
Analog Supply Current	4 mA to 6 mA
Digital Supply Current	5 mA to 8 mA
Output Supply Current	1 mA to 2 mA
Integral Non-Linearity	±0.5 LSB to ±0.75 LSB
Differential Non-Linearity	±0.25 LSB to ±0.5 LSB
Maximum Clock Frequency	40 MHz
Total Power Dissipation	30 mW to 53 mW

Functional Block Diagram