ADC0804S030/040/050:

Single 8 bits ADC, up to 30 MHz, 40 MHz or 50 MHz

Product Feature Sheet

Features

- 8-bit resolution
- Sampling rate up to 50 MHz
- DC sampling allowed
- One clock cycle conversion only
- High signal-to-noise ratio over a large analog input frequency range (7.8 effective bits at 4.43 MHz full-scale input at fclk = 40 MHz)
- No missing codes guaranteed
- In-Range (IR) CMOS output
- TTL and CMOS levels compatible digital inputs
- 3 V to 5 V CMOS digital outputs
- Low-level AC clock input signal allowed
- External reference voltage regulator
- Power dissipation only 175 mW (typical)
- Low analog input capacitance, no buffer amplifier required
- No sample-and-hold circuit required

Typical Applications

- Video data digitizing
- Radar
- Transient signal analysis
- ∑Δ modulators
- Medical imaging
- Barcode scanner
- Global Positioning System (GPS) receiver
- Cellular base stations

Device Overview

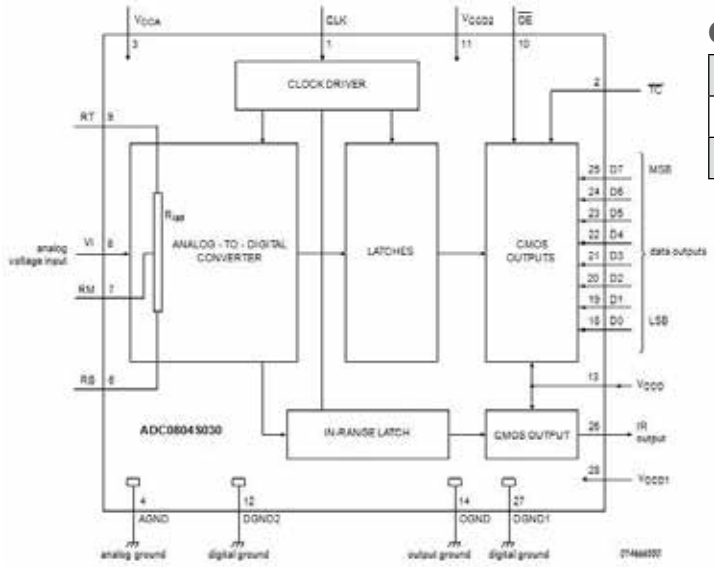
The ADC0806030/040/050 are a family of 8-bit high-speed, low-power Analog-to-Digital Converters (ADC) for professional video and other applications. It converts the analog input signal into 8-bit binary coded digital signals at a maximum sampling rate of 50 MHz. All digital inputs and outputs are Transistor-Transistor Logic (TTL) and CMOS compatible, although a low-level sine wave clock input signal can also be used.

The device requires an external source to drive its reference ladder. If the application requires that the reference is driven via internal sources, Silicon360 recommends you use one of the ADC1003S030/040/050 family.

Absolute Maximum Ratings:

Analog Supply Voltage	4.75 V to 5.25 V
Digital Supply Voltage	4.75 V to 5.25 V
Output Supply Voltage	3.0 V to 5.25 V
Analog Supply Current	18 mA to 24 mA
Digital Supply Current	16 mA to 21 mA
Output Supply Current	1 mA to 2 mA
Integral Non-Linearity	±0.2 LSB to ±0.5 LSB
Differential Non-Linearity	±0.12 LSB to ±0.22 LSB
Maximum Clock Frequency - ADC0804S030TS	30 MHz
Maximum Clock Frequency - ADC0804S040TS	40 MHz
Maximum Clock Frequency - ADC0804S050TS	50 MHz
Total Power Dissipation	175 mW to 247 mW

Block Diagram



Ordering Information

ADC0804S030TS/C1,1	30 MHz
ADC0804S040TS/C1,1	40 MHz
ADC0804S050TS/C1,1	50 MHz