

ADC1006S055/070:

Single 10 bits ADC, up to 55 MHz or 70 MHz

Product Feature Sheet

Features

- 10-bit resolution
- Sampling rate up to 70 MHz
- -3 dB bandwidth of 245 MHz
- 5 V power supplies and 3.3 V output power supply
- Binary or two's complement CMOS outputs
- In-range CMOS compatible output
- TTL and CMOS compatible static digital inputs
- TTL and CMOS compatible digital outputs
- Differential AC or Positive Emitter-Coupled Logic (PECL) clock input; TTL compatible
- Power dissipation 550 mW (typical)
- Low analog input capacitance (typical 2 pF), no buffer amplifier required
- Integrated sample-and-hold amplifier
- Differential analog input
- External amplitude range control
- Voltage controlled regulator included
- -40 °C to +85 °C ambient temperature

Typical Applications

- High-speed analog-to-digital conversion for:
 - Cellular infrastructure
 - Professional telecommunication
 - Digital radio
 - Radar
 - Medical imaging
 - Fixed network
 - Cable modem
 - Barcode scanner
 - Cable Modem Termination System (CMTS)/Data Over Cable Service Interface Specification (DOCSIS)

Device Overview

The ADC1006S055/070 are a family of Bipolar CMOS (BiCMOS) 10-bit Analog-to-Digital Converters (ADC) optimized for a wide range of applications such as cellular infrastructures, professional telecommunications, imaging, and digital radio. It converts the analog input signal into 10-bit binary coded digital words at a maximum sampling rate of 70 MHz. All static digital inputs (SH, CE and OTC) are Transistor-Transistor Logic (TTL) and CMOS compatible and all outputs are CMOS compatible. A sine wave clock input signal can also be used.

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 3.6 V
Analog Supply Current	87 mA
Digital Supply Current	30 mA
Output Supply Current	4 mA
Integral Non-Linearity	±0.65 LSB to ±1.12 LSB
Differential Non-Linearity	±0.12 LSB to ±0.27 LSB
Maximum Clock Frequency - ADC1006S055H	55 MHz
Maximum Clock Frequency - ADC1006S070H	70 MHz
Total Power Dissipation	660 mW

Ordering Information

ADC1006S055H/C1,51	55 MHz
ADC1006S055H/C1,55	55 MHz
ADC1006S070H/C1,51	70 MHz
ADC1006S070H/C1,55	70 MHz

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Block Diagram

