



# ADC1206S040/055/070: Single 12 bits ADC, up to 40 MHz, 55 MHz or 70 MHz

## Product Feature Sheet

### Features

- 12-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 twos 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

- 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 ADC1206S040/055/070 are a family of BiCMOS 12-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 12-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                 | ±4.5 LSB         |
| Differential Non-Linearity             | +1.1-0.95 LSB    |
| Maximum Clock Frequency - ADC1206S040H | 40 MHz           |
| Maximum Clock Frequency - ADC1206S055H | 55 MHz           |
| Maximum Clock Frequency - ADC1206S070H | 70 MHz           |
| Total Power Dissipation                | 660 mW           |

### Ordering Information

|                    |        |
|--------------------|--------|
| ADC1206S040H/C1,51 | 40 MHz |
| ADC1206S040H/C1,55 | 40 MHz |
| ADC1206S055H/C1,55 | 55 MHz |
| ADC1206S070H/C1,51 | 70 MHz |
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## Block Diagram

