



TDA8768AH/4/5/7/8:

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 TDA8768AH/4/5/7/8 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

| | |
|-------------|--------|
| TDA8768AH/4 | 40 MHz |
| TDA8768AH/5 | 55 MHz |
| TDA8768AH/7 | 70 MHz |
| TDA8768AH/8 | 80 MHz |

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Block Diagram

