

## ADVANCE INFORMATION

All information in this data sheet is preliminary and subject to change.

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# MAXIM

## 14-Bit, 250ksps ADC with T/H and Voltage Reference

T-51-10-90

### General Description

The MAX168 is a high-speed, 14-bit monolithic analog-to-digital converter (ADC) that includes track/hold (T/H), 20ppm/°C voltage reference, an internal clock oscillator, and an 8-bit microprocessor interface.

The MAX168 performs conversions in 3.5μs (max), and can be driven from its internal oscillator or from an external clock source. The T/H acquisition time is 500ns (max), providing a 250k samples per second (ksps) throughput rate. The device is fully tested and specified for dynamic parameters such as SNR, THD, and IMD, which are important in signal-processing applications. In addition, the part is monotonic over temperature to 14 bits, and has a maximum 1/2 LSB integral nonlinearity (INL).

The MAX168 operates from ±5V supplies and accepts bipolar analog inputs in the -3V to +3V range. The internal +3V reference can be overridden by an external reference voltage in the +2.5V to +3.1V range. Power consumption is 120mW (typ). The MAX168 is offered in 24-pin narrow DIP and wide SO packages. Contact factory for price and availability.

### Applications

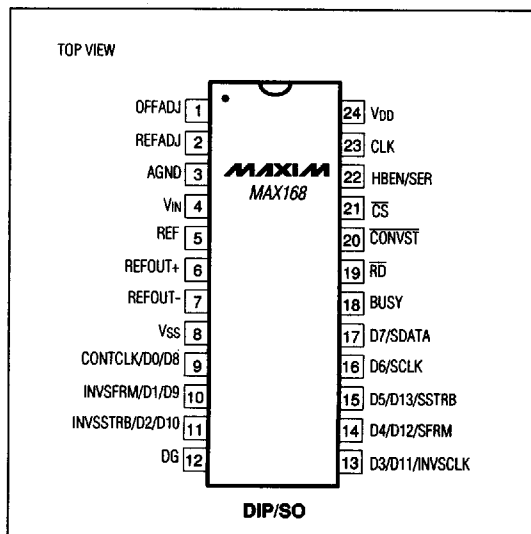
Digital-Signal Processing  
Spectrum Analysis  
High-Speed Data Acquisition  
Audio and Telecommunications  
Industrial Process Control

### Features

- ◆ 14-Bit Resolution
- ◆ 250ksps Throughput Rate
- ◆ 3.5μs Max Conversion Time
- ◆ Internal Track/Hold
- ◆ 20ppm/°C Voltage Reference
- ◆ 1/2LSB INL Max
- ◆ Low Noise and Distortion:  
-92dB THD  
81dB S/(N+D)
- ◆ Operates from ±5V Supplies
- ◆ Low Power: 120mW
- ◆ 24-Pin Narrow DIP/Wide SO Packages

MAX168

### Pin Configuration



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