ADVANCE INFORMATION

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

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MAXIM

Low-Power, Single-/Dual-Supply, 12-Bit Sampling ADC

General Description

The MAX191 is a complete monolithic CMOS 12-bit analog-to-digital converter (ADC) that features a differential input, track-and-hold (T/H), adjustable voltage reference, internal or external clock, and both parallel and serial µP interfaces. It has a conversion time of 7.5µs and tested sampling rate of 100kHz while requiring only 5mA from a single 5V supply. A 50µA power-down mode saves power in a slow sampling rate applications.

No external components are needed other than decoupling capacitors for the power supply and reference. This ADC operates with an internal or external reference. The internal reference features an adjustment input for trimming system gain errors.

The MAX191 provides three interface modes. Two 8-bit parallel modes, and a serial-interface mode that is compatible with common serial-interface standards.

Applications

Battery-Powered Data Logging

High-Accuracy Process Control

Electro-Mechanical Systems

Automatic Testing Systems

Data-Acquisition Boards for PCs

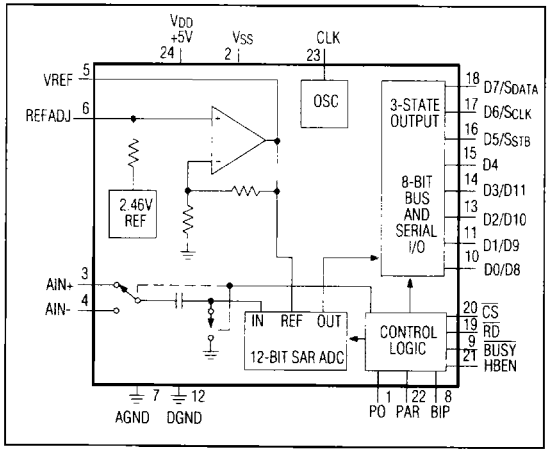
Telecommunications

Digital-Signal Processing (DSP)

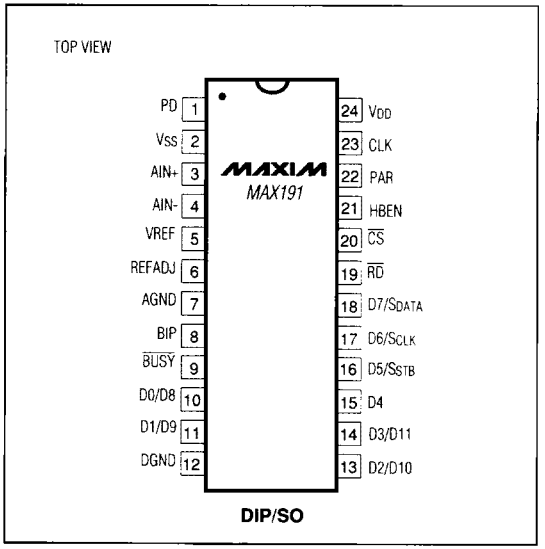
Features

- ♦ **12-Bit Resolution,1/2LSB Linearity**
- ♦ **Single +5V or Dual ±5V Operation 5mA Max Current**
- ♦ **Power-Down Mode – 50µA Max**
- ♦ **Built-In Track-and-Hold**
- ♦ **7.5µs Conversion Time (9.5µs Including T/H Acquisition)**
- ♦ **Internal Reference with Adjustment Capability**
- ♦ **Serial and 8-Bit Parallel µP Interface**
- ♦ **24-pin Narrow DIP and Wide SO Packages**

Functional Diagram



Pin Configuration



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