14-Bit & 15 Bit Sampling Analog to Digital Converter

DAS1152/DAS1153

FEATURES

- **Complete with High Accuracy Sample/Hold and A/D Converter**
- **Differential Nonlinearity: ±0.002% FSR max (DAS1153)**
- **Nonlinearity: DAS1152: ±0.005% FSR max**
  DAS1153: ±0.003% FSR max
- **Low Differential Nonlinearity T.C.: ±2ppm/°C max**
- **High Throughput Rate: 25kHz min (DAS1152)**
- **High Feedthrough Rejection: -96dB**
- **Byte-Selectable Tri-State Buffered Outputs Internal Gain & Offset Potentiometers**
- **Improved Second Source to A/D/A/M 824 and A/D/A/M 825 Modules**
- **Low Cost**

APPLICATIONS

- **Process Control Data Acquisition**
- **Automated Test Equipment**
- **Seismic Data Acquisition**
- **Nuclear Instrumentation**
- **Medical Instrumentation**
- **Robotics**

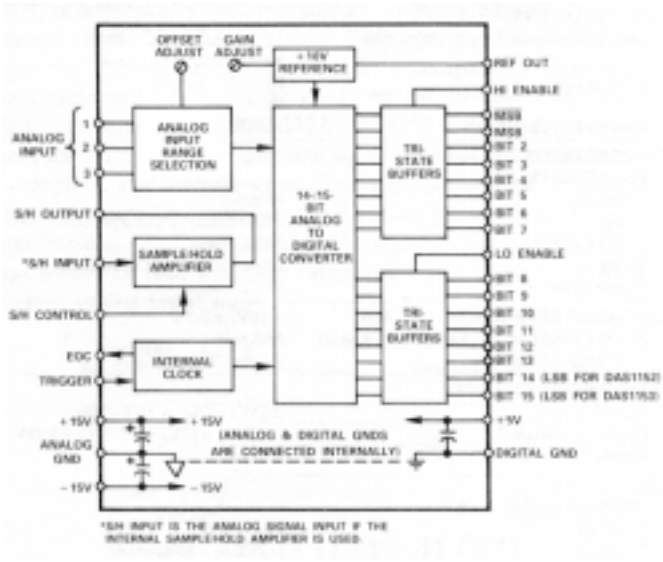

Figure 1. DAS1152/DAS1153 Block Diagram

GENERAL DESCRIPTION

The DAS11152/DAS1153 are 14-/15-bit sampling analog-to-digital converters having a maximum throughput rate of 25kHz/20kHz. They provide high accuracy, high stability, and functional completeness all in a 2" x 4" x 0.44" metal case.

Guaranteed high accuracy system performance such as nonlinearity of ±0.005% FSR (DAS1152)/ ±0.003% FSR (DAS1153) and differential nonlinearity of ±0.003% FSR (DAS1152)/ ±0.002% FSR (DAS1153) are provided. Guaranteed stability such as differential nonlinearity T.C. of ±2ppm/°C (DAS1153) maximum, zero T.C. of ±80µV/°C maximum, gain T. C. of ± 8ppm/°C maximum and power supply sensitivity of ± 0.001% FSR/% Vs are also provided by the DAS1152/DAS1153.

The DAS1152/DAS1153 make extensive use of both integrated circuit and thin film components to obtain their excellent performance, small size, and low cost. The devices contain a precision sample/hold amplifier, high accuracy 14-/15-bit analog- to-digital converter, tri-state output buffers, internal gain and offset trim potentiometers, and power supply bypass capacitors (as shown in Figure 1).

Four analog input voltage ranges are selectable via user pin programming: 0V to +5V, 0V to +10V, ±5V, and ±10V. Unipolar coding is provided in true binary format with bipolar coding displayed in offset binary and two's complement. Tri-state buffers provide easy interface to bus structured applications.

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