A/D Converters

Extending its reach in the analog marketplace, Microchip Technology introduced three upgraded, low-power analog-to-digital (A/D) converters with full differential inputs. Referred to as the MCP330X family, these 13-bit A/D converters are ideal for remote data acquisition, transducer interface and sensing applications. Additionally, Microchip designed the low-power, low-cost devices to be easily implemented in portable and battery-powered applications. These products have a maximum sampling rate of 100 ksps and excellent linearity (&#177 1 LSB) for integral non-linearity (INL) and differential non-linearity (DNL) specifications.

The MCP330X devices are successive approximation 13-bit serial A/D converters with on-board sample and hold circuitry. A simple serial interface compatible with the SPI&#153 protocol is utilized for communication with the devices. The devices operate over a broad voltage range of 2.7- to 5.5-volts. Low current design enables operation with maximum standby and active currents of only 1 &#956A and 450 &#956A respectively. The reference voltage can be varied from 400 mV to 5 V, yielding input-referred resolution between 97.6 &#956V and 1.22 mV.

Microchip also offers the MXDEV&#153 Analog Evaluation System to assist designers with development of A/D circuits, including the essential tools a designer needs to create a system requiring differential inputs. Software tools provided with the system include real-time oscilloscope and FFT displays.

The MCP330X family is available in several small packages, including the MSOP-8 package. Because of the small size, low power and auto shutdown features, the MCP330X A/D converters are also well suited for a variety of communication and industrial applications.

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