

A 300ksps, Single-supply, 12-Bit Serial-output ADC

FEATURES

- ◆ Pin-Compatible, Single-channel Higher-Speed Upgrade to MAX1286
- ◆ Single-Supply Operation: +2.7V to +3.6V
- ◆ DNL & INL: ± 1 LSB (max)
- ◆ 300ksps Sampling Rate
- ◆ Low Conversion-Mode Supply Current: 0.95mA @ 300ksps
- ◆ Low Supply Current in Shutdown: 0.2 μ A
- ◆ Internal 10-MHz Track-and-Hold
- ◆ Internal $\pm 0.6\%$, 30ppm/ $^{\circ}$ C +2.5V Reference
- ◆ SPI/QSPI/MICROWIRE 3-Wire Serial-Interface
- ◆ 8-Pin, 3mm x 3mm TDFN-EP Package

APPLICATIONS

Process Control and Factory Automation
Data and Low-frequency Signal Acquisition
Portable Data Logging
Pen Digitizers & Tablet Computers
Medical Instrumentation
Battery-powered Instruments

DESCRIPTION

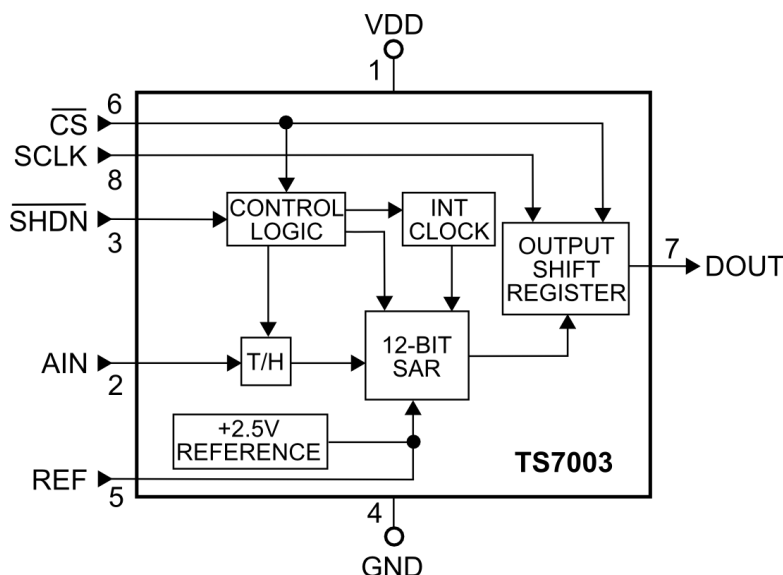
The TS7003 – a single-supply, single-channel, 12-bit analog-to-digital converter (ADC) - is Touchstone Semiconductor's 1st successive-approximation ADC that combines a high-bandwidth track-and-hold (T/H), a high-speed serial digital interface, an internal +2.5V reference, and low conversion-mode power consumption. The TS7003 operates from a single +2.7V to+3.6V supply and draws less than 1mA at 300ksps.

Connecting directly to any SPI™/QSPI™/MICROWIRE™ microcontrollers and other interface-compatible computing devices, the TS7003's 3-wire serial interface is easy to use and doesn't require separate, external logic. An external serial-interface clock controls the TS7003's conversion process and its output shift register operation.

In PCB-space-conscious, low-power remote-sensor and data-acquisition applications, the TS7003 is an excellent choice for its low-power, ease-of-use, and small-package-footprint attributes.

As a pin-compatible and higher-speed upgrade to the MAX1286, the TS7003 is fully specified over the -40 $^{\circ}$ C to +85 $^{\circ}$ C temperature range and is available in a low-profile, 8-pin 3x3mm TDFN package with an exposed back-side paddle.

FUNCTIONAL BLOCK DIAGRAM

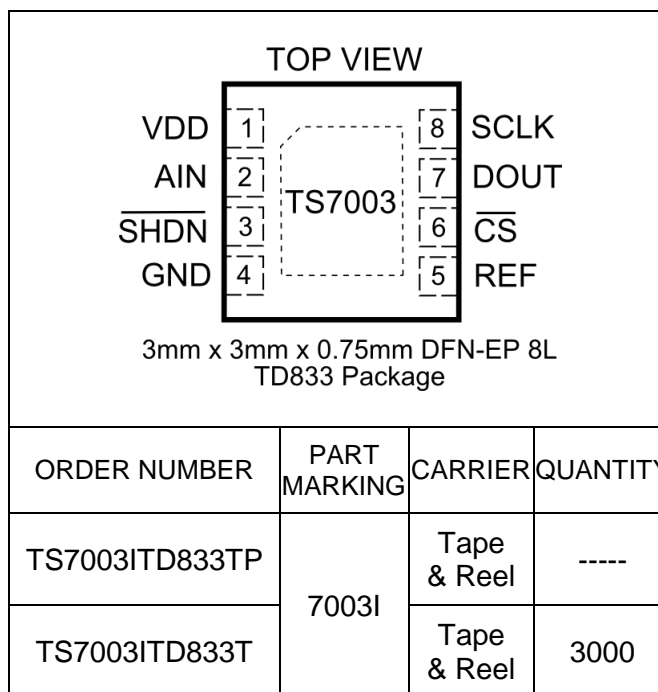


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TS7003 Product Brief



PACKAGE/ORDERING INFORMATION



Lead-free Program: Touchstone Semiconductor supplies only lead-free packaging.

Consult Touchstone Semiconductor for products specified with wider operating temperature ranges.

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