

# TS7003 Product Brief

## 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:  $\pm 1$ LSB (max)
- ◆ 300ksps Sampling Rate
- ◆ Low Conversion-Mode Supply Current: 0.95mA @ 300ksps
- ◆ Low Supply Current in Shutdown: 0.2 $\mu$ A
- ◆ Internal Track-and-Hold
- ◆ Internal +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

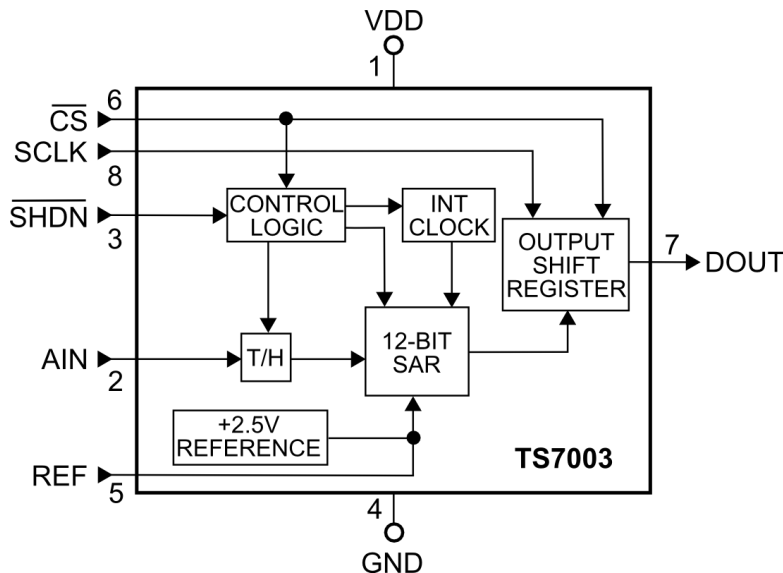
The TS7003 – a single-supply, single-channel, 12-bit analog-to-digital converter (ADC) - is Touchstone Semiconductor's 1st successive-approximation ADC that combines a high-bandwidth track-and-hold (T/H), a high-speed serial digital interface, an internal +2.5V reference, and low conversion-mode power 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 to the MAX1286, the TS7003 is fully specified over the -40°C to +85°C temperature range and is available in a low-profile, 8-pin 3x3mm TDFN package with an exposed back-side paddle.

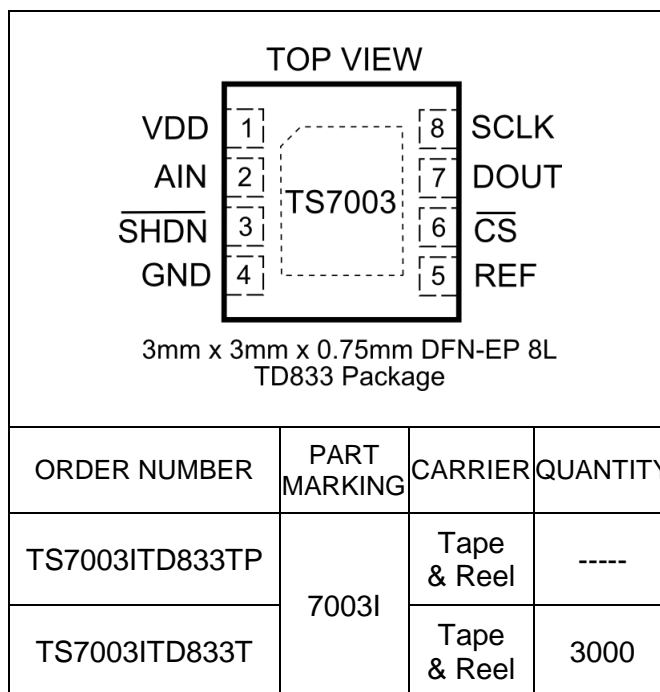
### FUNCTIONAL BLOCK DIAGRAM



The Touchstone Semiconductor logo is a registered trademark of Touchstone Semiconductor, Incorporated.

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## 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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