

## General Description

The TCS2046 is a 4-wire resistive touch screen controller that incorporates a 12-bit 125 kHz sampling SAR type A/D converter.

The TCS2046 operates down to 2.2V supply voltage and supports digital I/O interface voltage from 1.5V to VCC in order to connect low voltage uP.

The TCS2046 can detect the pressed screen location by performing two A/D conversions. In addition to location, the TCS2046 also measures touch screen pressure. On-chip VREF can be utilized for analog auxiliary input, temperature measurement and battery monitoring with the ability to measure voltage from 0V to 5V.

The TCS2046 also has an on-chip temperature sensor

The TCS2046 is available in 16pin QFN thin package (0.75mm in height) and has the operating temperature range of -40°C to +85°C

## Features

12 bit SAR type A/D converter with S/H circuit

Low voltage operation ( $V_{CC} = 2.2V \sim 3.6V$ )

Low voltage digital I/F ( $1.5V \sim V_{CC}$ )

4-wire I/F

Sampling frequency: 125 kHz (max)

On-Chip voltage reference (2.5V)

Pen pressure measurement

On-chip thermo sensor

Direct battery measurement

Low power consumption (260 $\mu$ A)

Package 16pin QFN

## Applications

Personal digital assistants

Portable instruments

Point -of-sale terminals

Pagers

Touch screen monitors

Cellular phones