

SGC24012\_01\_TSMC\_CLN16FC

## 12 BIT HIGH RESOLUTION JTM / ADC

### Features

- High resolution temperature and voltage measurement
- Wide sensor range ( $\Delta V_{be}$  and absolute voltage measurement modes)
- High noise immunity ( $\Delta \Sigma$  ADC)
- 0.2 °C resolution

### Applications

- In chip temperature monitoring
- Crystal oscillator temperature curve compensation
- General purpose ADC

### Applications Diagram

### General Description

*SGC24012\_01\_TSMC\_CLN16FC* is an accurate high resolution ADC for temperature or voltage measurements. Due to its high accuracy, it presents a wide range of applications from predictive protection systems to temperature compensation of crystal oscillators. Making use of a 12-bit advanced fully differential  $\Delta \Sigma$  ADC, the *SGC24012\_01\_TSMC\_CLN16FC* offers excellent repeatability and high PSRR. Designed to achieve 2.0% overall temperature accuracy, it is specified from  $T_j = -40^\circ\text{C}$  to  $125^\circ\text{C}$ . The *SGC24012\_01\_TSMC\_CLN16FC* can be used with a silicon diode macro, as the *SGC24100\_01\_TSMC\_CLN16FC*.

### Quick Reference

SYMBOL	DESCRIPTION	MIN	TYP	MAX	UNIT
$V_{AVDD}$	Analog Sup.	1.08	—	1.98	V
$V_{DVDD}$	Digital Sup.	0.70	—	1.00	V
$F_{CLK}$	$\Delta \Sigma$ Freq.	200	500	700	kHz