

SGC24012_01_TSMC_28HPCp

12 BIT HIGH RESOLUTION JTM / ADC

Features

- High resolution 12-bit temperature and voltage measurement
- Wide sensor range (ΔV_{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

The *SGC24012_01_TSMC_28HPCp* 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_28HPCp* offers excellent repeatability and high PSRR. Being specified from $T_j = -40^\circ\text{C}$ to 125°C , the IP was designed to achieve 2.0% overall temperature accuracy. It can be used with a silicon diode macro, as the *SGC24100_01_TSMC_28HPCp*.

Quick Reference

SYMBOL	DESCRIPTION	MIN	TYP	MAX	UNIT
V_{AVDD}	Analog Sup.	1.60	—	1.98	V
V_{DVDD}	Digital Sup.	0.80	—	1.10	V
F_{CLK}	$\Delta \Sigma$ Freq.	200	500	700	kHz