

## Features

- Nano power Real Time Clock (RTC) with 32kHz oscillator
- TCXO with third order polynomial compensation
- Less than 25ppm freq. error between -20°C and 85°C
- Integrated oscillator load capacitors and bias
- Configurable TCXO monitoring period
- Divided square wave output
- 32-bit time counter and alarm
- 32-bit general purpose register
- Four ADC inputs
- 100% analog flow for ultra low leakage

## Applications

- Time keeping applications
- Wireless sensor networks
- Battery powered stand-by devices

## Applications Diagram

## General Description

*SGCPMU\_01\_TSMC\_CLN12FC* is a *Real Time Clock (RTC)* with *Temperature Compensated Crystal Oscillator (TCXO)*. Using advanced analog design techniques, it guarantees low power consumption and ultra low leakage. The *SGCPMU\_01\_TSMC\_CLN12FC* uses a third order polynomial correction to trim the crystal oscillator, based on a configurable periodic temperature monitoring. Additionally, a broad range of options, as 32 bit alarm or general purpose registers, allow the user to select the best solution for its system. The IP also offers four ADC inputs. Being able to operate for weeks from the charge of a single super capacitor, it is specified from -40°C to 125°C.

## Quick Reference

SYMBOL	DESCRIPTION	MIN	TYP	MAX	UNIT
$V_{IN}$	Input Sup.	1.50	1.80	1.98	V
$V_{DVDD}$	Digital Sup.	0.72	0.80	0.88	V
$F_{XTAL}$	XTAL Freq.	—	32.768	—	kHz