

SGC21713_IP007708_GF_22FDX

PVT SENSOR

Features

- Sensitive to Process, Voltage, Temperature, Frequency and Aging
- Sensor for dynamic voltage and frequency optimization
- No impact on the digital design flow
- Configurable monitoring period
- 8-bit Resolution

General Description

SGC21713_IP007708_GF_22FDX can be used in a control loop to minimize the voltage for a given frequency or maximize frequency for a given voltage. Based on a group of sensors, it permits PVT and aging tracking, while allowing the identification of the actual variable that changed. Designed to achieve 3% overall accuracy (over Load / Line / Temp), it is specified from $T_J = -40^{\circ}\text{C}$ to $+125^{\circ}\text{C}$.

Applications

- Supply voltage minimization for digital cores
- Frequency maximization for digital cores
- Security breach detection

Quick Reference

SYMBOL	DESCRIPTION	MIN	TYP	MAX	UNIT
$V_{D\text{VDD}}$	Digital Voltage	0.70	-	0.90	V
F_{CLK}	System Clock	-	-	10	Mhz
T_J	Temp. Range	-40	-	125	$^{\circ}\text{C}$