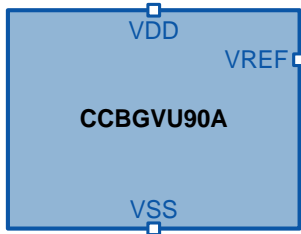


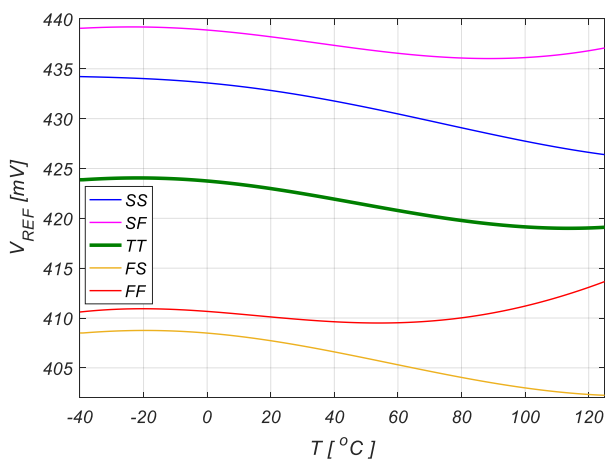
CCBGVU90A - Ultra Low Power Bandgap Voltage Reference (UMC 90nm)

Symbol

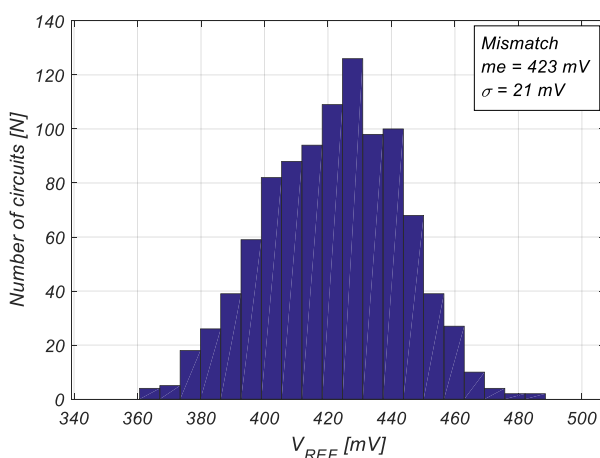


Pinlist

Pin	Description	Type
VREF	Output voltage	Analog
VDD	Positive supply	Supply
VSS	Negative supply	Supply



V_{REF} vs temp. across process corners



V_{REF} distribution (w/o trimming)

Product Overview

The cell is a standalone silicon proven high precision voltage reference circuit with an unbuffered constant output voltage of typically 0.423 V. The circuit works over a large supply voltage range, providing excellent accuracy over the whole process and temperature range.

Key Features

- Foundry, Node: UMC 90 nm FSG
- Small Area: 0.001 mm², size: 22 μm x 51 μm
- Supply Voltage: 1.1 V \div 3.3 V
- Operational Temp. Range: -40 $^{\circ}\text{C}$ \div 125 $^{\circ}\text{C}$
- $V_{REF} = 423 \text{ mV} \pm 3.7\%$ (w/o process trimming)
- V_{REF} Temp. Coefficient: < 110 ppm/ $^{\circ}\text{C}$
- Max. Operating current: < 1.1 μA (active mode)
- Build in DC startup circuit
- No external components
- Silicon proven, easy portable for other process
- Low cost: only MOS devices used, no BJT and resistors

Applications

- Low Power Handled Portable Device
- RFID cards
- Voltage regulators
- Measurement and calibration systems

Deliverables

- Datasheet/Integration Guide
- GDSII database/LVS & SPICE netlist
- HDL Model/Footprint (.LEF)
- IP implement. support, 6 months maintenance (delivery of the IP and documentation up-dates)