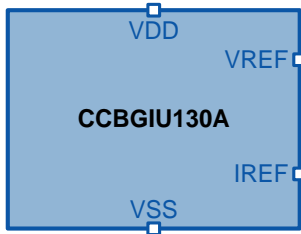


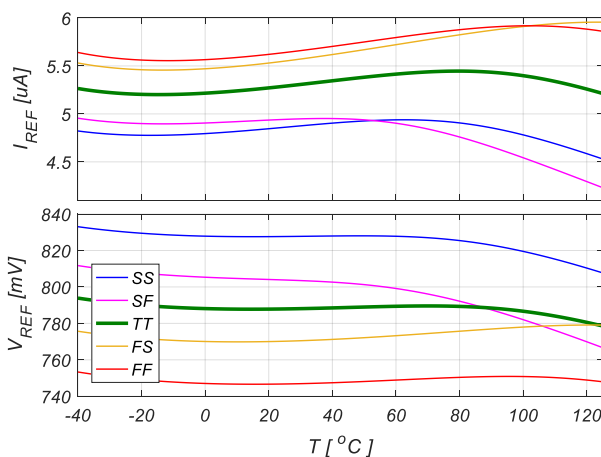
CCBGIU130A - Low Power Bandgap Current & Voltage Reference (UMC 130nm)

Symbol

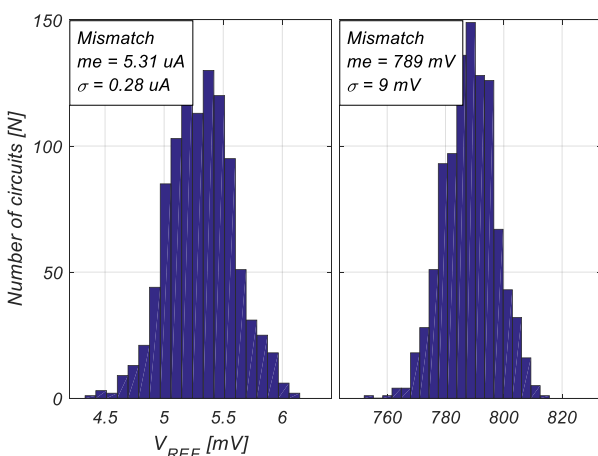


Pinlist

Pin	Description	Type
VREF	Output voltage	Analog
IREF	Output current	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 silicon proven high precision current and voltage reference circuit with constant output current of typically 5.30 μA and a constant output voltage of typically 0.788 V. The circuit works over a large supply voltage range, providing excellent accuracy over the whole process and temperature.

Key Features

- Foundry, Node: UMC 130 nm LL/FSG
- Small Area: 0.001 mm², size: 24 μm x 49 μm
- Supply Voltage: 0.9 V ÷ 2.0 V
- Operational Temp. Range: -40 $^{\circ}C$ ÷ 125 $^{\circ}C$
- $I_{REF} = 5.30 \mu A \pm 7\%$ (w/o process trimming)
- $V_{REF} = 788 mV \pm 5\%$ (w/o process trimming)
- V_{REF} Temp. Coefficient: < 340 ppm/ $^{\circ}C$
- Max. operating current: < 23.5 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
- Voltage regulators, Power Management Unit
- Measurement and calibration systems

Deliverables

- Datasheet/Integration Guide
- GDSII database/LVS & SPICE netlist
- HDL Model/Footprint (.LEF)
- IP implement. support, 6 months maintenance