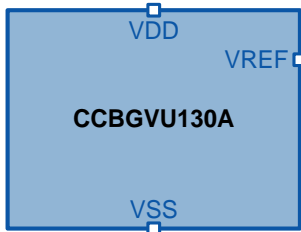


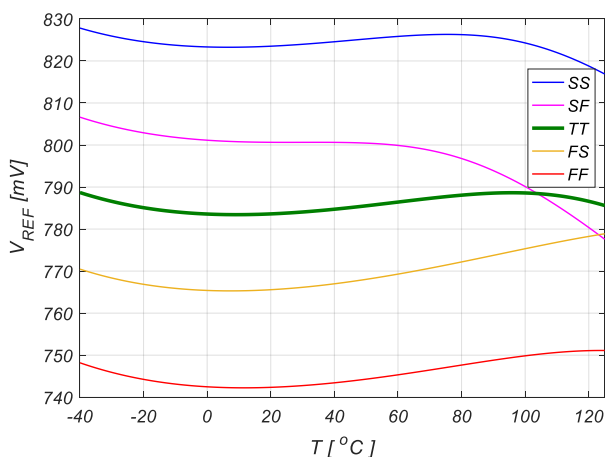
## CCBGVU130A - Low Power Bandgap Voltage Reference (UMC 130nm)

### Symbol

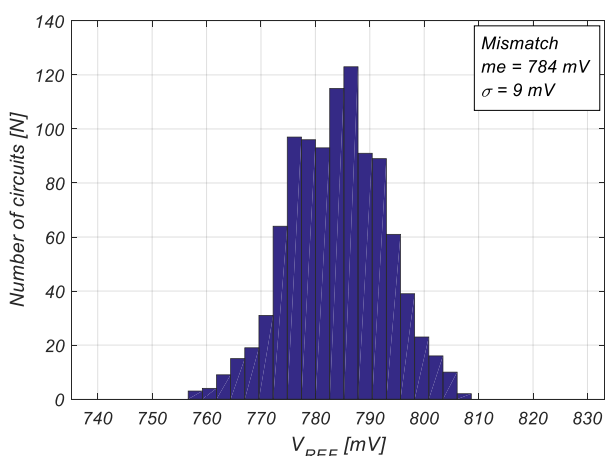


### Pinlist

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 0.784 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 130 nm LL/FSG
- Small Area: 0.001 mm<sup>2</sup>, size: 24 μm x 43 μm
- Supply Voltage: 0.9 V ÷ 2.0 V
- Operational Temp. Range: -40°C ÷ 125°C
- $V_{REF} = 784 \text{ mV} \pm 5\%$  (w/o process trimming)
- $V_{REF}$  Temp. Coefficient: < 220 ppm/°C
- Max. operating current: < 15.3 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
- 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)