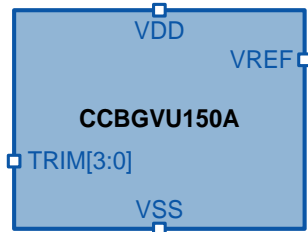


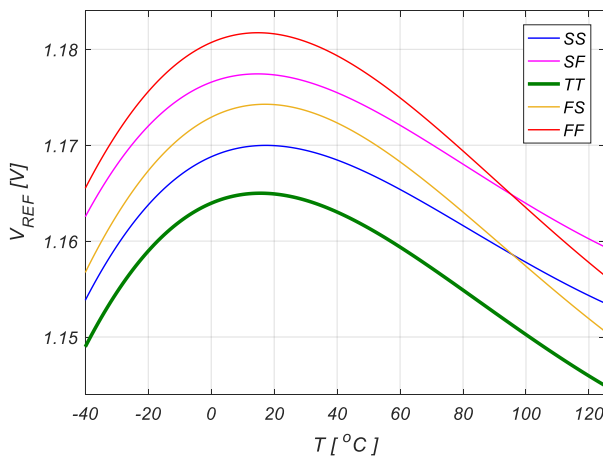
CCBGVU150A - Low Power Bandgap Voltage Reference (LFoundry 150nm)

Symbol

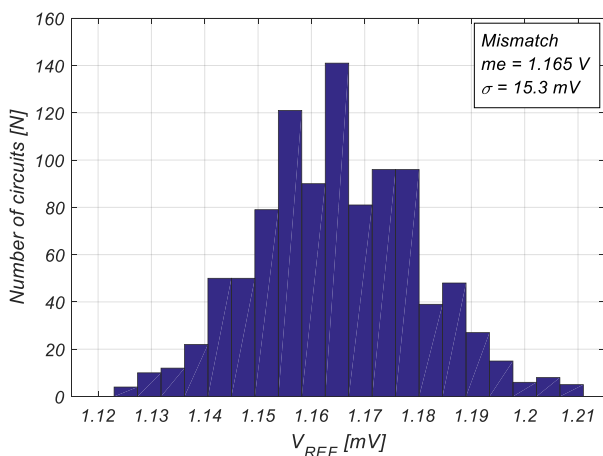


Pinlist

Pin	Description	Type
VREF	Output voltage	Analog
TRIM[3:0]	VREF trimming value	Digital
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 trimmable silicon proven high precision, super stable voltage reference circuit with an unbuffered constant output voltage of typically 1.165 V. The circuit works over a large supply voltage range, providing excellent accuracy over the whole process and temperature range.

Key Features

- Foundry, Node: LFoundry 150 nm Mixed/RF
- Small Area: 0.013 mm², size: 101 μm x 132 μm
- Supply Voltage: 2.1 V ÷ 3.63 V
- Operational Temp. Range: -40°C ÷ 125°C
- $V_{REF} = 1.165 \text{ V} \pm 0.7\%$ (w/o process trimming)
- V_{REF} Temp. Coefficient: < 130 ppm/°C
- Max. Operating current: < 39 μA (active mode)
- Trimmed against variations by a 4-bit bus
- 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