

SIVI-BG130N300

TSMC/SMIC 130nm-G (1P5M)

MAIN FEATURES

- Designed on TSMC/SMIC 130nm Generic process
- V_{supply} : 2.5V \rightarrow 3.6V
- Accuracy across PVT: $\pm 1.2\%$
- Accuracy after trimming is less than $\pm 0.1\%$
- Low noise performance
- Excellent supply rejection over wide frequency range
- Low current consumption
- Capability of trimming the output voltage
- IP Silicon area < 0.02mm²
- Operational temperature from -40°C to 125°C

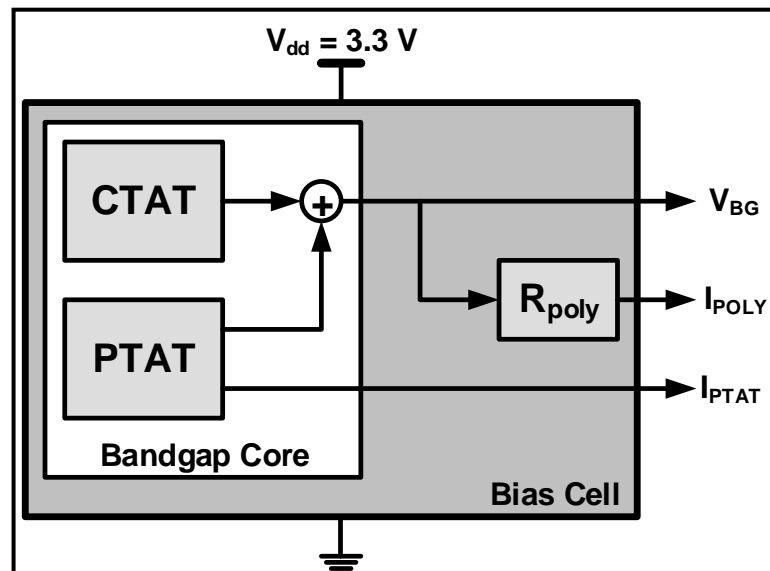
IP DESCRIPTION

SiVi-BG130n300 is a low noise bandgap reference cell with less than 50nV/ $\sqrt{\text{Hz}}$ spot noise at 100kHz. With its good accuracy and low noise performance SiVi-BG130n300 is considered the optimum solution for low noise SoC solutions

SiVi-BG130n300 is silicon verified on a Generic TSMC and SMIC 130nm process.

ELECTRICAL SPECIFICATIONS

| Spec / Result | | Min | Typ | Max | Unit |
|---|------------|------|-------|-----|------------------------|
| Supply Voltage | | 2.5 | 3.0 | 3.6 | V |
| Temperature Range | | -40 | 27 | 125 | °C |
| PSRR | @10kHz | | -65 | | dB |
| | @1MHz | | -40 | | |
| Spot Noise @100kHz | | | | 75 | nV/ $\sqrt{\text{Hz}}$ |
| Temperature Coefficient | @T = -40°C | -20 | | 4 | ppm/°C |
| | @T = 27°C | -10 | | 2 | |
| | @T = 125°C | -5 | | 8 | |
| Voltage Coefficient (2.0V \rightarrow 3.6V Vdd) | | 0.25 | | 0.8 | %/V |
| Startup time, CL=5pf | | | 500 | | μs |
| Output Voltage | | | 1.185 | | V |
| Current Consumption, | | | | 150 | μA |



SiVi-BG130n300 Block Diagram

