

SIVI-BG180N400

TSMC/SMIC 180nm-G (1P5M)

MAIN FEATURES

- Designed on TSMC/SMIC 180nm Generic process
- V_{supply} : 1.9V \rightarrow 3.6V
- Accuracy across PVT: $\pm 1.5\%$
- Accuracy after trimming is less than $\pm 0.1\%$
- Ultra-Low power noise performance
- Excellent supply rejection over wide frequency range
- Low current consumption
- Capability of trimming the output voltage
- Small IP area < 0.018mm²
- Operational temperature from -40°C to 125°C

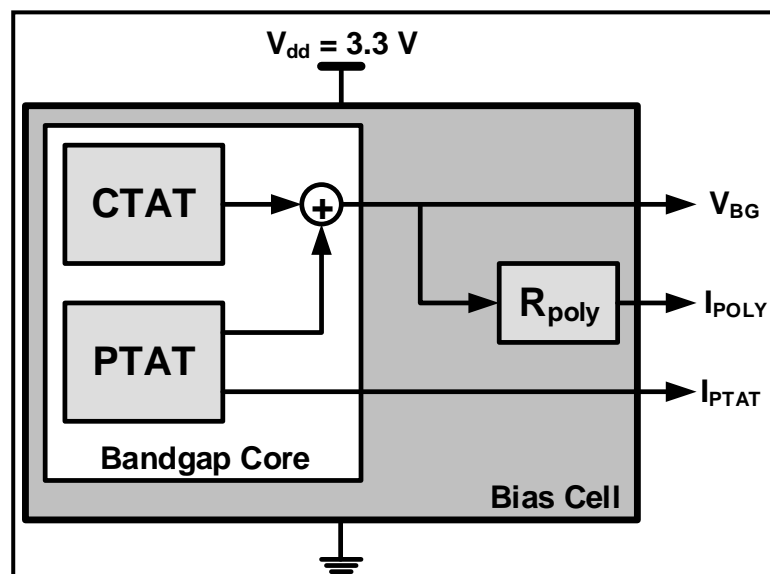
IP DESCRIPTION

SiVi-BG180n400 is an ultra-low noise bandgap reference cell with less than 1.5nV/ $\sqrt{\text{Hz}}$ spot noise at 100kHz. With its good accuracy and ultra-low noise performance SiVi-BG180n400 is considered the optimum solution for low noise SoC solutions

SiVi-BG180n400 is silicon verified on a Generic TSMC and SMIC 180nm process.

ELECTRICAL SPECIFICATIONS

Spec / Result		Min	Typ	Max	Unit
Supply Voltage		1.9	3.0	3.6	V
Temperature Range		-40	27	125	°C
PSRR	@10kHz		-75		dB
	@1MHz		-55		
Spot Noise @100kHz				1.4	nV/ $\sqrt{\text{Hz}}$
Temperature Coefficient	@T = -40°C	-25		5	ppm/°C
	@T = 27°C	-7		-5	
	@T = 125°C	-20		0	
Voltage Coefficient (2.0V \rightarrow 3.6V Vdd)		0.5		1	%/V
Startup time, CL=5pf			300		μs
Output Voltage		0.84	0.856	0.87	V
Current Consumption,			90	120	μA



SiVi-BG180n400 Block Diagram

