

SIVI-BG130N100

TSMC/SMIC 130nm-G (1P5M)



MAIN FEATURES

- Designed on TSMC/SMIC 130nm Generic process
- V_{supply} : 2.5V \rightarrow 3.6V
- Accuracy across PVT: $\pm 1.9\%$
- Accuracy after trimming is less than $\pm 0.2\%$
- 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

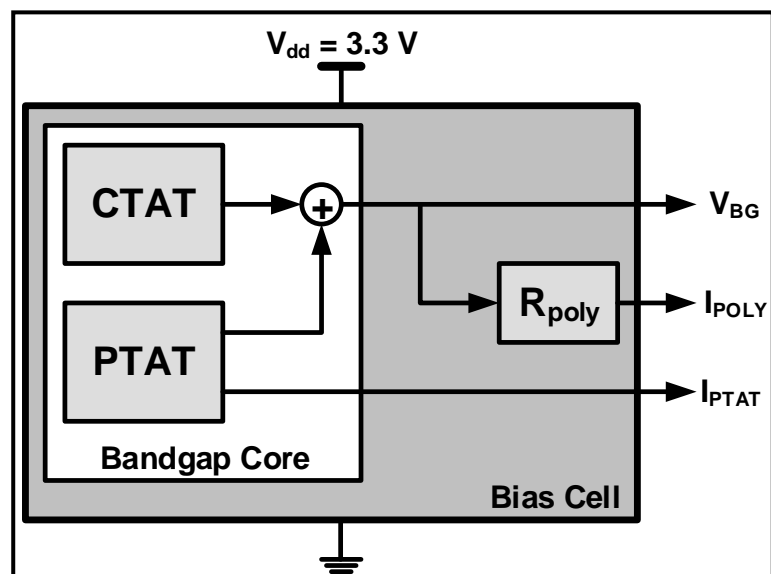
IP DESCRIPTION

SiVi-BG130n100 is a low noise bandgap reference cell with less than 55nV/ $\sqrt{\text{Hz}}$ spot noise at 100kHz. With its good accuracy and low noise performance SiVi-BG130n100 is considered the optimum solution for low noise SoC solutions

SiVi-BG130n100 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		-85		dB
	@1MHz		-65		
Spot Noise @100kHz				55	nV/ $\sqrt{\text{Hz}}$
Temperature Coefficient	@T = -40°C	-20		4	ppm/°C
	@T = 27°C	-5		5	
	@T = 125°C	-5		8	
Voltage Coefficient (2.0V \rightarrow 3.6V Vdd)		0.25		0.8	%/V
Startup time, CL=5pf			450		μs
Output Voltage			1.225		V
Current Consumption,				400	μA



SiVi-BG130n100 Block Diagram

