

# SIVI-BG180N100

TSMC 180nm-G (1P5M)

## MAIN FEATURES

- Designed on TSMC 180nm Generic process
- $V_{\text{supply}}$ : 2.0V  $\rightarrow$  3.6V
- Accuracy across PVT:  $\pm 8\%$
- Ultra-Low power consumption less than 100nA
- Good supply rejection
- Low noise performance
- Capability of trimming the output voltage
- Small IP area < 0.018mm<sup>2</sup>
- Operational temperature from -40°C to 125°C

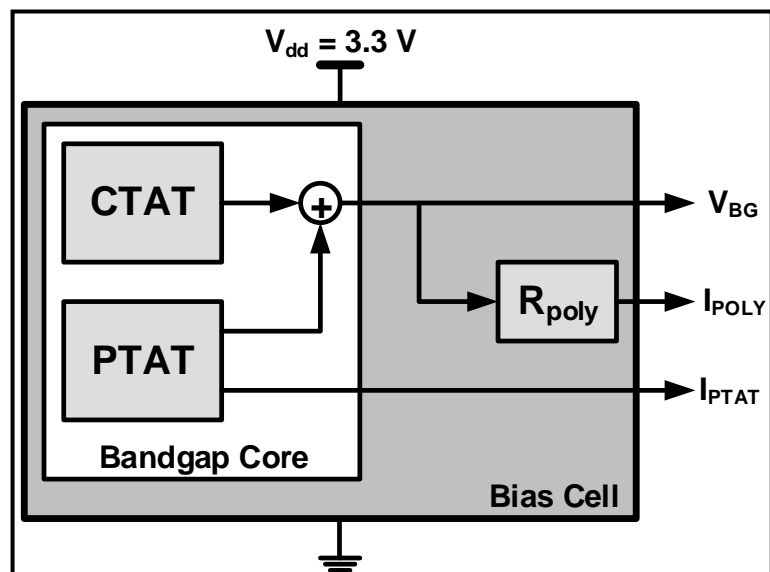
## IP DESCRIPTION

SiVi-BG180n100 is an ultra-low current bandgap reference cell which consumes less than 0.1 $\mu$ A for operation. With its good accuracy and ultra-low current performance SiVi-BG180n100 is considered the optimum solution for low power SoC solutions

SiVi-BG180n100 is silicon verified on a Generic TSMC 180nm process.

## ELECTRICAL SPECIFICATIONS

Spec / Result		Min	Typ	Max	Unit
Supply Voltage		2.0	3.0	3.6	V
Temperature Range		-40	27	125	°C
PSRR	@10kHz		-45		dB
	@1MHz		-25		
Integrated Noise (0.1Hz $\rightarrow$ 10Hz)			25		$\mu$ V
Temperature Coefficient	@T = -40°C	-250		-200	ppm/°C
	@T = 27°C	-35		-5	
	@T = 125°C	310		400	
Voltage Coefficient (2.0V $\rightarrow$ 3.6V Vdd)		1.3		4.6	%/V
Startup time, CL=5pf			300		$\mu$ s
Output Voltage		0.902	0.975	1.07	V
Current Consumption,			0.1	0.25	$\mu$ A



SiVi-BG180n100 Block Diagram

