Product description

The RTBG cell of the nSBG_XF180_1V8 library is a radiation tolerant bandgap reference voltage generator IP cell powered at 1.8V±10%, designed on the XFAB XH018 technology.

Applications

- AD and DA converters
- Precision regulators
- Battery-powered instrumentation
- Portable medical equipment
- Radiation-sustaining systems

Main features

- Single 1.8V ±10% power supply
- 20µA typical power consumption
- 0.9V output reference voltage
- -40 to +125°C junction temperature
- Less than 15ppm/K temperature drift
- 68dB power supply rejection
- Standby/power down mode
- Low silicon surface

Radiation tolerance tests results

- TID : tested up to 155krad → no voltage variation
- SEL : LET up to 67MeV/mg/cm² → no latch-up

Main characteristics

- XFAB XH018
- 1.8V±10% power supply
- -40 to +125°C
- Radiation tolerant

Deliverables

- GDS II layouts
- LEF abstracts
- CDL netlists
- Liberty timings
- Verilog description
- A full datasheet
- An integration note

Status

- Silicon proven
- Radiation proven
Further information

For further information about this product and other nSilition IPs, development roadmap, availability and licensing terms, please e-mail to sales@nsilition.com.

Delivery and support

This bandgap cell is available as hard macro-cell for reuse in any design based on the XFAB XH018 CMOS process. No extra IP license from any third party will be needed for the cells or the cell library.

In addition, full support service is available on request. Support can include close integration follow-up by our design team, custom-made cells or features or characterization under a specific radiation pattern.

Porting to another process

The nSBG_XF180_1V8_RTBG bandgap cell is silicon and radiation proven in the XFAB XH018 CMOS process. It can be easily ported to another foundry and/or another similar CMOS process node upon request. Please contact us for details and availability.

About nSilition

nSilition is a leading analog and mixed-signal semiconductor IP provider.

nSilition specializes in the development of high quality analog and mixed-signal high performance semiconductor IPs. With reference designs available for 10b to 14b A/D and D/A converters, high-speed IO circuits, PFM and PWM high efficiency DC/DC integrated converters and high precision bandgap references; nSilition enables the highest value analog and mixed-signal functionalities at the lowest risk.

The “IP design” service of nSilition offers top-class quality, customization and support dedicated to your needs and your specifications.

Disclaimer

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