

Rad-tolerant voltage reference cell

NSBG_XF180_1V8_RTVREF

Product description

The RTVREF cell of the nSBG_XF180_1V8 library is a buffered radiation-tolerant bandgap reference voltage generator IP cell powered at 1.8V \pm 10% (bandgap) and 3.3V \pm 10% (buffer), designed on the XFAB XH018 technology.

Main characteristics

- XFAB XH018
- 1.8V/3.3V \pm 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

Applications

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

Main features

- 1.8V/3.3V \pm 10% power supply
- 1.4V to 2.0V programmable output voltage
- 1mA output current capability (sink/drive)
- -40 to +125°C junction temperature
- Less than 15ppm/K temperature drift
- 68dB power supply rejection
- Standby/power down mode
- Embedded bias circuitry
- Low silicon surface

Radiation tolerance tests results

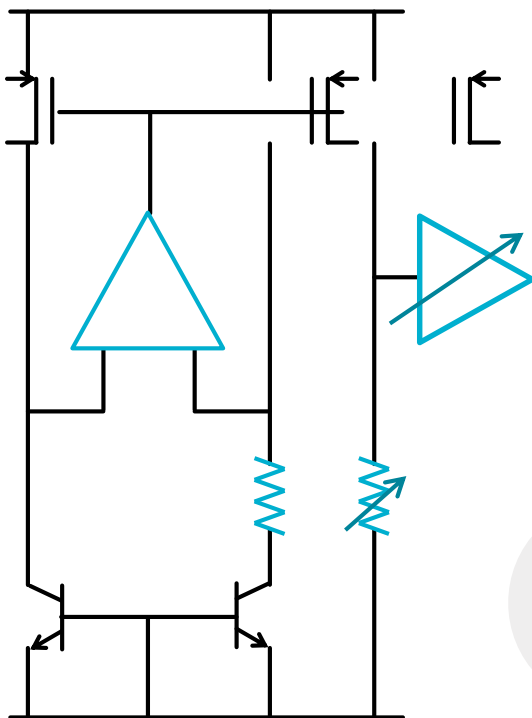
- TID : tested up to 155krad → no voltage variation
- SEL : LET up to 67MeV/mg/cm² → no latch-up



nSilitation
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Support can include close integration follow-up by our design team, custom-made cells or features or characterization under a specific radiation pattern



Voltage reference block diagram

Further information

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

Delivery and support

This reference voltage 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_RTVREF voltage reference 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 nSilitation

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

nSilitation 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; nSilitation enables the highest value analog and mixed-signal functionalities at the lowest risk.

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

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