

Main characteristics

- UMC 180 MM
- 1.8V supply voltage
- 9.5 ENOB
- 100MS/s
- 66mW

Deliverables

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

Status

- Silicon proven

Product description

The nSAD_UM180M_1V8_AD10b100M is a 100MS/s, 9.5 ENOB, high-speed and low-power AD converter designed on the UMC 180 MM technology. Built around a fully differential proprietary time-enhanced pipeline converter and a digital error correction circuitry, it consumes 66mW on silicon, reaching an energy efficiency of 911fJ/conversion-step.

Applications

- Video capture and motion detection
- High speed serial communication (HDMI, Ethernet...)
- AFE for fixed and mobile wireless communication
- Medical imaging (IR, Doppler...)

Main features

- Includes reference generator, biasing and decoupling
- 66mW consumption in operation
- Power-down mode
- 1.1mm² area
- Proprietary conversion scheduling for lower power consumption
- 59dB SNR @ 1MHz f_{in}
- 61dB SFDR @ 1MHz f_{in}
- ± 0.5 INL and ± 0.7 DNL
- 2V_{pp_diff} input dynamic range



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 AD converter cell is available as hard macro-cell for reuse in any design based on the UMC 180 MM 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 or custom-made cells or features.

Porting to another process

The nSAD_UM180M_1V8_AD10b100M AD converter cell is silicon proven in the UMC 180 MM 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.

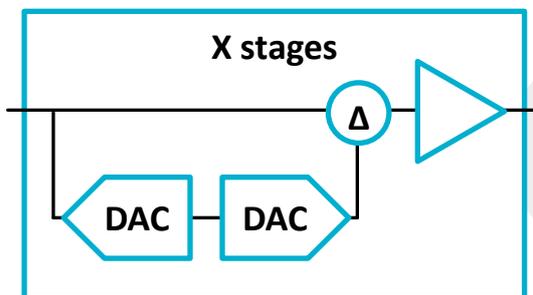
nSilitation specializes in the development of high quality analog and mixed-signal high performance semiconductor IPs. With reference designs available for 10b to 14b A/D and D/A converters, high-speed IO circuits, PFM and PWM high efficiency DC/DC integrated converters and high precision bandgap references;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

Disclaimer

The information provided by nSilitation has been verified and is believed to be accurate. nSilitation and all its right holders reserve the right to make changes to the information contained herein without notice. They reserve also the right to make changes to the product without notification. No liability shall be incurred as a result of the use or application of the information provided in this data sheet and/or the use of the corresponding product in any case.

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Pipeline-ADC stage block diagram

