

# Ultra-low power 10b 100kS/s ADC

NSAD\_ST65LP\_1V2\_AD10B100K

## Main characteristics

- ST 65 LP
- 0.7V supply voltage
- 8.9 ENOB
- 100kS/s
- 600nW

## 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\_ST65LP\_1V2\_AD10b100k is a 100kS/s, 8.9 ENOB, ultra-low-power SAR AD converter designed on the ST 65 LP technology. It consumes 600nW on silicon, reaching an energy efficiency of 12.5fJ/conversion-step.

## Applications

- Ultra-low power sensor interface
- Autonomous sensor network nodes
- Battery powered systems
- Energy harvesting powered systems

## Main features

- 600nW consumption during operation
- Power-down consumption of 10nW
- 0.037mm<sup>2</sup> area
- Comparator auto-calibration
- 20mV/V gain error and 1mV offset typical
- 55.3dB SNDR
- 62.6dB SFDR
- 1.1 INL and 2.3 DNL
- 1kHz ERBW



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## 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](mailto:sales@nsilitation.com).

## Delivery and support

This AD converter cell is available as hard macro-cell for reuse in any design based on the ST 65 LP 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\_ST65LP\_1V2\_AD10b100k AD converter cell is silicon proven in the ST 65 LP 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.

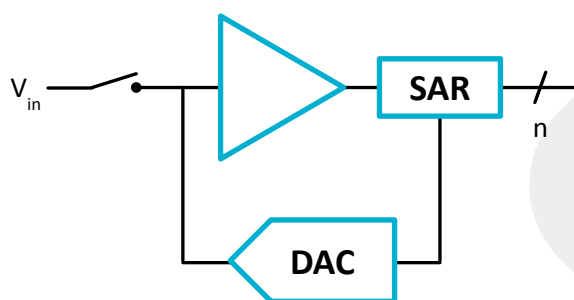
nSilitation specializes in the development of high quality analog and mixed-signal high performance semiconductor IPs. With reference designs available for 10b to 14b A/D and D/A converters, high-speed IO circuits, PFM and PWM high efficiency DC/DC integrated converters and high precision bandgap references;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

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*Charge-redistribution SAR-ADC block diagram*

