

# Smartcard ICs for banking

Trusted technology for secure and convenient payment



**STMicroelectronics (ST)** is a world leader in the development and delivery of smartcard ICs for the banking sector.

This is the result of over 20 years in the industry, delivering reliable performance and an unparalleled commitment to the supply of advanced secure products.

ST's smartcard technologies are implemented in many of our partners' products, and adopted by banks and financial institutions across the world.

Taking advantage of its expertise in non-volatile memories, ST is today offering a brand new product family for banking applications based on the advanced 0.13  $\mu\text{m}$  technology.

## Security, convenience and innovation

Closely following new trends in finance, ST is able to address the most demanding market requirements. The ST23 family uses 0.13  $\mu\text{m}$  technology, offering effective high-performance solutions for banking applications.

Taking advantage of all the security improvements that have appeared in the last two years, the ST23 family has been certified EMVCo and Common Criteria EAL5+ (ST23YLxx).

- ST23YSxx: entry level products for easy and cost-effective SDA migration.
- ST23YLxx: high-performance cryptographic products for DDA/CPA evolution, enabling latest security features. The ST23YLxx has a hardware cryptographic coprocessor (Nescrypt) enabling best-in-class RSA cryptographic computations.
- ST23YRxx: contactless/dual-interface products combining both security and convenience for new emerging markets in the US, Asia and Europe.

## Key features

- 8/16-bit CPU core
- Complete portfolio from 2 Kbytes to 80 Kbytes of EEPROM
- Hardware cryptographic coprocessor (Nescrypt)
- Advanced 0.13 µm technology

## Security certification

- EMVCo
- Common Criteria EAL5+ (ST23YLxx)
- ZKA (ST23YLxx)

## ST23 family with enhanced 8/16-bit CPU core

ST23 families based on embedded EEPROM						
Part number	ROM	EEPROM	RAM	Cryptography	Interface	Process
ST23YS02	36 KB	2 KB	2 KB	EDES, AES	ISO, IART	0.13 µm
ST23YS08	108 KB	8 KB	2 KB	EDES, AES	ISO, IART	0.13 µm
ST23YL18	196 KB	18 KB	4+2 KB	EDES, AES, RSA, ECC	ISO, IART	0.13 µm
ST23YL48	300 KB	48 KB	6+2 KB	EDES, AES, RSA, ECC	ISO, IART	0.13 µm
ST23YL80	396 KB	80 KB	6+2 KB	EDES, AES, RSA, ECC	ISO, IART	0.13 µm
ST23YR18	230 KB	18 KB	4+2 KB	EDES, AES, RSA, ECC	ISO, IART, RF ISO 14443 B/B'	0.13 µm
ST23YR80	396 KB	80 KB	6+2 KB	EDES, AES, RSA, ECC	ISO, IART, RF ISO 14443-B	0.13 µm

## ST Solutions for banking

Applications	Preferred device
EMV migration from magstripe to SDA	ST23YS02 ST23YS08
EMV evolution from SDA to DDA	ST23YL18 ST23YL48 ST23YL80
EMV contactless and multiapplication	ST23YR18 ST23YR80

## Packaging

ST has the unique ability to offer smarcards ICs in wafers and advanced micromodules combining integration and security. All these packages are ECOPACK versions, compliant with the European directive 2002/95/EC relating to restrictions on hazardous substances (RoHS).



## Development environment

Software development and firmware generation are supported by a comprehensive set of development tools dedicated to software design and validation.



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