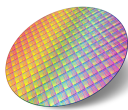


NFC Type 5 / RFID tag IC with up to 2.5 Kbits EEPROM, product identification and protection



UDFPN5 (1.7x1.4 mm)



Wafer



Features

Contactless interface

- Compliant with ISO/IEC 15693
- NFC Forum Type 5 tag certified by the NFC Forum
- Supports all ISO/IEC 15693 modulations, coding, subcarrier modes, and datarates up to 26 Kbit/s
- Single block reads and writes, multiple block reads
- Internal tuning capacitance: 23 pF

Memory

- Up to 2560 bits (320 bytes) of EEPROM
- Accessible by blocks of four bytes
- Write time from RF: typical 5 ms per block
- Data retention: 60 years at 55°C
- Minimum endurance: 100k write cycles
- 3-digit unique tap code
- Augmented NDEF (contextual automatic NDEF message)

Data protection

- User memory configurable in one or two areas:
 - in single area mode, access protectable by one 64-bit password
 - in flexible dual area mode, access protectable by two 32-bit passwords
- System configuration: access protected by a 32-bit password
- Permanent write lock of specific user area blocks
- Temporary write lock at user area level
- Permanent write lock of specific system configuration blocks

Product identification and protection

- Password features: cover coding, recovery, failed attempt counter
- Tamper detection capability with memorization of open/resealed events
- TruST25 digital signature

Privacy

- Configurable kill mode for permanent deactivation of the tag
- Untraceable mode with configurable responsiveness

Temperature range

- From - 40 to 85 °C

Package

- 5-pin package, ECOPACK2 (RoHS compliant)
- Bumped and sawn wafer

Product status link
ST25TV02KC
ST25TV512C

Description

The **ST25TV02KC** and **ST25TV512C** devices are NFC/RFID tag ICs with an 'Augmented NDEF' feature, a tamper detection interface, and specific modes to protect customer privacy.

The 'Augmented NDEF' feature is a contextual automatic NDEF message service, allowing the tag to respond dynamic content without an explicit update of the EEPROM by the enduser.

The tamper detection interface is available on **ST25TV02KC-T** devices only. This interface is not available on **ST25TV02KC-A** and **ST25TV512C** devices.

The **ST25TV02KC** and **ST25TV512C** devices hold a digital signature generated by TruST25 (a set of software and procedures) to prove the origin of the chip in cloning detection, embeds a configurable EEPROM with 60-year data retention, and can be operated from a 13.56 MHz long range RFID reader or an NFC phone.

The contactless interface is compliant with the ISO/IEC 15693 standard and NFC Forum Type 5 tag specification.

INACTIVE - INACTIVE - INACTIVE - INACTIVE - INACTIVE

Revision history

Table 1. Document revision history

Date	Version	Changes
28-Feb-2020	1	Initial release.
10-Dec-2020	2	Updated Features and Section Description.
14-Dec-2020	3	Changed confidentiality level.

INACTIVE - INACTIVE - INACTIVE

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, please refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2020 STMicroelectronics – All rights reserved.

INACTIVE - INACTIVE - INACTIVE