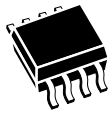
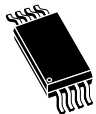


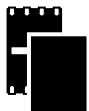
Dynamic NFC/RFID tag IC with 4-Kbit, 16-Kbit or 64-Kbit EEPROM, and fast transfer mode capability



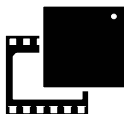
SO8



TSSOP8



UFDFPN8



UFDFPN12

Product status link

[ST25DV04KC](#)
[ST25DV16KC](#)
[ST25DV64KC](#)

Features

I²C interface

- Two-wire I²C serial interface supports 1 MHz protocol
- Single supply voltage: 1.8 V to 5.5 V
- Multiple byte write programming (1 up to 256 bytes)
- Configurable I²C slave address

Contactless interface

- Based on ISO/IEC 15693
- NFC Forum Type 5 tag certified by the NFC Forum
- Supports all ISO/IEC 15693 modulations, coding, sub-carrier modes and data rates
- Custom fast read access up to 53 Kbit/s
- Single and multiple blocks read (same for Extended commands)
- Single and multiple blocks write (up to 4) (same for Extended commands)
- Internal tuning capacitance: 28.5 pF

Memory

- Up to 64-kbit of EEPROM (depending on version)
- I²C interface accesses bytes
- RF interface accesses blocks of 4 bytes
- Write time:
 - From I²C:
 - typical 5 ms for 1 up to 16 bytes
 - From RF:
 - typical 5 ms for 1 block
- Data retention: 40 years
- Write cycles endurance:
 - 1 million write cycles at 25 °C
 - 600k write cycles at 85 °C
 - 500k write cycles at 105 °C
 - 400k write cycles at 125 °C

Fast transfer mode

- Fast data transfer between I²C and RF interfaces
- Half-duplex 256-byte dedicated buffer

Energy harvesting

- Analog output pin to power external components

Data protection

- User memory: 1 to 4 configurable areas, protectable in read and/or write by three 64-bit passwords in RF and one 64-bit password in I²C
- System configuration: protected in write by a 64-bit password in RF and a 64-bit password in I²C

GPO

- Interruption pin configurable on multiple RF events (field change, memory write, activity, Fast Transfer end, user set/reset/pulse) and I²C events (memory write completed, RF switch off)
- Open Drain or CMOS output (depending on version)

RF management

- RF command interpreter enabled/disabled from I²C host controller
- I²C priority:
 - Immediate RF switch off from I²C

Temperature range

- Range 6:
 - From -40 to 85 °C
- Range 8:
 - From -40 to 105 °C (UDFPN8 and UDFPN12 only)
 - From -40 to 125 °C (SO8N and TSSOP8 only, 105 °C max on RF interface)

Package

- 8-pin and 12-pin packages
- ECOPACK2 (RoHS compliant)

Description

The [ST25DV04KC](#), [ST25DV16KC](#) and [ST25DV64KC](#) devices are Dynamic NFC/RFID tag IC with a dual interface, fast transfer mode, energy harvesting, configurable interrupt capability, RF management and low power mode.

They embed an EEPROM memory and a dedicated memory buffer for fast data transfer.

They operate from an I²C interface or by a 13.56 MHz RFID reader or a NFC phone. The I²C two-wire interface behaves as a slave in the I²C protocol.

The contactless interface is compatible with ISO/IEC 15693 standard and NFC Forum type 5 tag.

Revision history

Table 1. Document revision history

Date	Revision	Changes
20-May-2021	1	Initial release.



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