SIC43NT

NFC Product Authentication

REV 0.1

Features Summary

SIC43NT is an NFC Forum Type 2 Tag IC featuring web-based authentication feature with secure rolling code and the RF detection pin (RFD). The RFD can be configured to either wake up the MCU from sleep mode when detecting an RF field or to activate tamper evidence detection for anti-tampering purpose.

Highlight Features

- NFC Forum Type 2 Tag
- A configurable pin for three modes of operation:
  - RF field detection
  - Tamper evidence detection
  - Sleep mode
- Dynamic NDEF message
  - Contains UID, tamper evidence message, and rolling code
  - Is mirrored into the original NDEF message.
  - Can be triggered by tamper status of the tag.
- Password protection
- Tag authenticity verification using rolling code (optional)
- Secured tamper status decoding to prevent message counterfeiting (optional)

Interfaces and Peripherals

- RF interface based on ISO/IEC 14443A - 106 kbps
- True anti-collision
- Configurable output type in RF detection mode
  - Open-Drain Mode
  - 1.8 V-Output Mod
- On-chip capacitance 50 pF

Memory

- Factory programmed 7-byte UID
- Lock bytes with anti-tearing protection
- 144-byte user memory
- Dedicated memory for configuration functions: Password authentication, Pin configuration, and Rolling code configuration
- Dedicated memory for timestamp and tamper status
- EEPROM organization enabling NDEF TLV messages
- EEPROM erase/write cycle up to 500,000 times
- EEPROM memory retention up to 10 years

Operating Conditions

- 13.56 MHz operating radio frequency
- Operating temperature from -40 to 85°C

Package

- Die-On-Wafer with Au-Bump
- DFN

Development Kit

- SIC43NT Development Kit: PNTGK100PB0S1NTD0CB

Development Kit and Support Material

- Demo Android APP and Source Code
- Reference PCB Design and Schematic Diagram
- Reference Antenna and Antenna Design Tool

Applications

- Anti-tampering sticker and label
- Smart packaging
- Vouchers and coupons
- Product authentication
- NFC-wakeup devices and appliances
- Bluetooth and Wi-Fi pairing
- Smart Toys
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