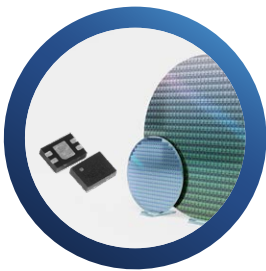


**SIC43NT  
SIC43S1**

## NFC FORUM TYPE 2 TAG ICs FOR ITEM-LEVEL AUTHENTICATION

**SIC43NT and SIC43S1 are passive NFC Forum Type 2 Tag ICs, fully compliant with ISO/IEC 14443 A standard.** The user memory of both chips supports NDEF updating with a unique value for each tap, enabling app-less NFC authentication.

For enhanced security, the SIC43S1 contains an AES-128 encryption engine designed for use with mutual authentication and encrypted communication schemes.

### HIGHLIGHT FEATURES

- NFC Forum Type 2 Tag
- Dynamic NDEF Message Containing UID and a Secured Authentication Code (SAC) or Rolling Code for Authentication
- ISO/IEC 14443 A, 106kbps
- 50pF Input Capacitance
- Secured Tamper Detection and Verification via SAC or Rolling Code
- Pin Configuration for RF Field Detection or Tamper Detection (SIC43NT)
- Operating Temperature: -40°C to 85°C

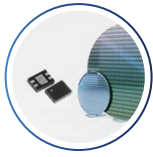
### APPLICATIONS

- Item-Level NFC Label or Sticker with Authentication Function
- Smart Packaging
- Vouchers and Coupons
- Access Control Card with Authentication Function



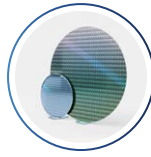
# NFC TAG ICs

## FOR ITEM-LEVEL AUTHENTICATION



### SIC43NT

NFC Forum Type 2 Tag  
with Secured Rolling-Code



### SIC43S1

NFC Forum Type 2 Tag  
with AES-128 Encryption



## COMPARISON TABLE

SPECIFICATION	SIC43NT	SIC43S1
Standard	NFC Forum Type 2 Tag ISO/IEC 14443 A	
<b>Memory</b>		
User Memory Size [bytes]	144	816
Data Retention [years]	10	
Write Cycle [times]	500k	100k
Memory Protection	32-bit Password Protection	AES-128 Mutual Authentication
<b>Dynamic NDEF</b>		
UID	14 bytes (ASCII)	
Tamper Status	2 bytes (ASCII)	-
Timestamp	8 bytes (ASCII)	
RLC/SAC	8 bytes (ASCII)	32 bytes (ASCII)
<b>Security</b>		
Mutual Authentication	No	Yes, AES-128
Encrypted Communication	No	Yes, AES-128
<b>I/O Function</b>		
RF Detection	Yes	No
Tampering Detection	Yes	No
<b>Others</b>		
On-Chip Capacitor [pF]	50	
Packages	Sawn Wafer with Bump, DFN	Sawn Wafer with Bump

## DEVELOPMENT KITS & SUPPORT MATERIALS

- Demonstration Software : iOS, Android and Windows
- Reference PCB Design and Schematic Diagram
- Reference Antenna Design

