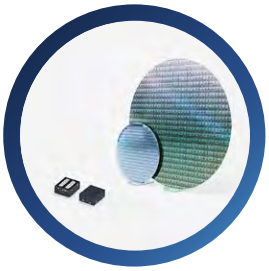


INDUSTRIAL IoT

SIC56ID
SIC56NL



NFC FORUM TYPE 5 TAG ICs
WITH ANTI-COLLISION

SIC56ID and SIC56NL are vicinity tag ICs compatible with ISO/IEC 15693 and NFC Forum Type 5 Tag standards. These chips deliver an easy-to-discover NFC experience for consumers and support multiple-tag reading through the anti-collision mechanism defined in ISO/IEC 15693. They also include an Electronic Article Surveillance (EAS) feature to help deter shoplifting.

SIC56ID offers a cost-effective solution for a wide range of general-purpose applications. **SIC56NL** supports the de facto standard **Read Signature** command and provides a **32-byte reprogrammable digital signature**, enabling item-level authentication without requiring internet access. It also features a **Persistent Quiet Mode**, which supports high-speed inventory management by minimizing unnecessary tag responses and improving scanning efficiency during large-scale RFID operations.

HIGHLIGHT FEATURES

- NFC Forum Type 5 Tag Compatible
- RF Interface Based on ISO/IEC 15693
- 256 Bytes* and 320 Bytes** of User Memory with 50 years Data Retention
- Multiple-Tag Reading with Fast Inventory Read
- On-Chip Capacitance 23.5 pF
- Electronic Article Surveillance (EAS)
- Persistent Quiet Mode **
- Reprogrammable 32 Bytes Digital Signature **

(*) SIC56ID (**) SIC56NL



APPLICATIONS

- Asset and Document Tagging
- Library Management
- Laundry Tags
- Pharmaceutical Supply Chain Management
- Smart Toys
- Smart Packaging
- Product Authentication **

NFC FORUM TYPE 5 TAG ICs
SPECIFICATIONS TABLE

SPECIFICATION	SIC56ID	SIC56NL
Supported Standards	NFC Forum Type 5 Tag ISO/IEC 15693 with AFI and DSFID Support ISO/IEC 18000-3 Mode 1	
RF Performance		
Operating Frequency [MHz]	13.56	
Data Transfer Rate [kbit/s]	Up to 53	
Memory		
EEPROM Memory [bytes]	256 (252 Bytes of User Memory and 4 Bytes of Counter Feature)	320 (316 Bytes of User Memory and 4 Bytes of Counter Feature)
Data Retention [years]	50	
Write Cycle [times]	100,000	
Security		
Memory Access Protection	32-bit or 64-bit Password Protection	
Digital Signature	No	Reprogrammable
Digital Signature Size [bytes]	-	32
Digital Signature Technology	-	Elliptic Curve Digital Signature Algorithm (ECDSA)
Features		
Counter	24-bit counter	
Persistent Quiet Mode Supported	No	Yes
EAS	Yes (with 32-bit Password)	
AFI		
Destroy Command		
Privacy Command		
Fast Inventory	Yes	
Resonant Capacitor		
On-Chip Capacitor [pF]	23.5	
Temperature Conditions		
Operating Temperature [°C]	-40°C to 85°C	
Storage Temperature [°C]	-65°C to 150°C	
Others		
Form Factors	• Sawn Wafer with Bump • DFN (Size : 1.15 × 1.4 × 0.5 mm)	



SUPPORT MATERIALS

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

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