



SILICON CRAFT TECHNOLOGY PLC

World's Leader and Provider of Innovative RFID and NFC IC Solutions

SHAPE THE WORLD OF SECURED
AND CONNECTED DEVICES WITH

INNOVATION & INTELLIGENCE

SIC, the Thailand's first and the only one privately held Thai semiconductor design company.

We're world-class designer and provider of linear & mixed-signal integrated circuits, with experience and expertise in design & development work, with top-tier foundries & semiconductor manufacturers.

Established in 2002, SIC offers novel, custom, standard design microchips for RFID applications. Delivers products that carry high-value added features and superior overall system performance.

The products quality is endorsed by years of lasting partnerships.



Leading company for NFC
Anti-counterfeiting application



The leading spearhead in
NFC-Sensor interface for
Smart Health Care and
Environmental Chemical Sensing



Expert in low-power,
mixed-signal ASIC design



Proven expertise in
cryptographic RF communication

PRODUCTS & SERVICES

RFID/NFC Integrated Circuit for :



Advanced NFC



Industrial IoT



Immobilizer



Animal ID

ASICs



Custom design to target
a wide range of applications
and use cases

APPLICATIONS



Anti-Counterfeiting
& Brand Protection



Smart Home
& Building



Medical Devices
& Healthcares



Toy & Game



Automotive

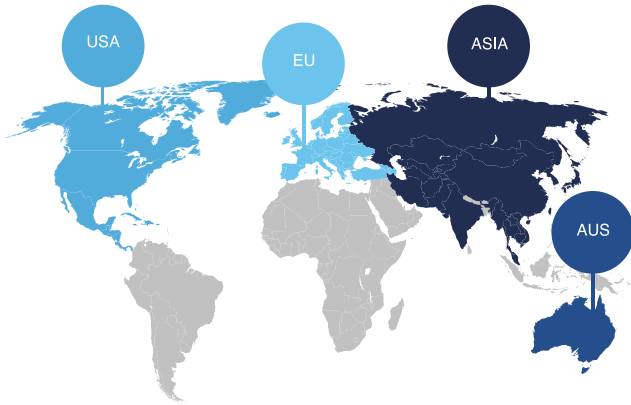


Livestock

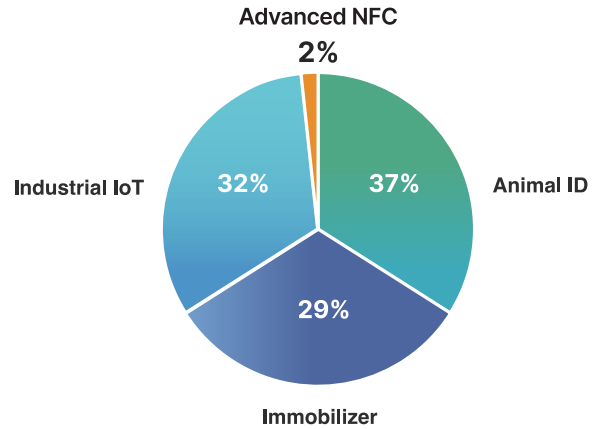
Market Coverage

Our target strategic growth countries:

EU, USA, Japan, Korea, Australia, China, India



Revenue Contribution



RFID Product Line



Advanced NFC

- **NFC for Connectivity with UART interface**
SIC4310/SIC4311
 - NFC-UART data transferring and energy harvesting
- **NFC for Authentication with on-chip encryption engine**
SIC43S1/SIC43NT/SIC43NTG2
 - NFC Tag IC with Dynamic NDEF for Web-based authentication.
- **NFC for Sensor interface with on-chip sensor biasing and 12-bit ADC**
SIC4340/SIC4341/SIC4343
 - Single-chip with NFC to sensor connection which can be used in batteryless application



Industrial IoT

- **ISO14443A HF Reader IC**
RA10
 - Support transmitter supply up to 7V
- **Multi-Protocol HF Reader IC**
RE31
 - Support ISO14443A/B and ISO15693
 - Support transmitter supply up to 7V
- **Multi-Protocol HF reader IC with JIS-X-6319-4**
RE41
 - Fully compatible RE31 with additional support JIS-X-6319-4
- **Multi-Protocol HF reader IC with Low Power Card Detection mode**
RA12
 - Support ISO14443A/B and ISO15693
 - Consumes only 4.7 μ A in card detection mode
- **Multipage HDX Transponder for Industrial Application**
SIC73F1
 - LF HDX transponder with EEPROM 1,360 bits in 17 pages read/write memory



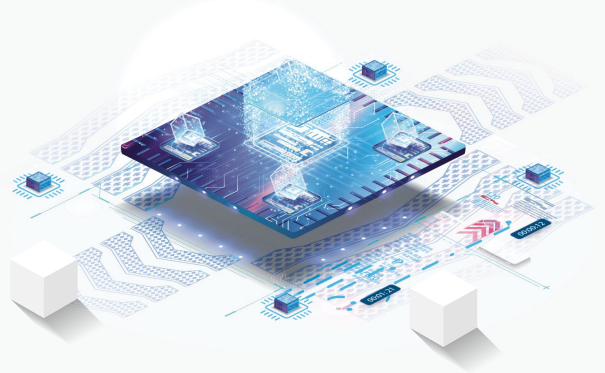
Immobilizer

- **LF Automotive Transponder IC**
SIC61 Family
 - Automotive transponder with form, function and performance compatible with majority of motor vehicle sold worldwide.



Animal ID

- **LF FDX-B Transponder IC**
SIC278
 - Best read range performance by SIC's boost-up technique.
- **LF HDX Transponder IC**
SIC279
 - Best-in-class reading performance HDX Tag IC in the market with tunable capacitor.



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SCAN ME



SIC43S1
SIC43NT
SIC43NTG2



NFC FORUM TYPE 2 TAG FOR ITEM-LEVEL AUTHENTICATION

SIC43S1, SIC43NT, SIC43NTG2 are the passive NFC forum type 2 tag, which are fully compliant to ISO14443A.

The user memory of both chips supports NDEF updating with a unique value for each tap which allows App-less NFC authentication.

For higher security purpose, SIC43S1 contains an AES-128 encryption engine, which is designed for using with mutual authentication and encrypted communication schemes.



APPLICATIONS

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

FEATURES SUMMARY

- NFC forum type 2 tag
- Dynamic NDEF message which contains UID, and a secured authenticated code (SAC) or rolling-code for authorization
- ISO14443A, 106kbps
- 50pF input capacitance
- Secured tamper detection and verification via SAC or rolling-code
- Pin configurable to be RF field detection or tamper detection (SIC43NT / SIC43NTG2)
- Operating temperature : -40 to 85 °C
- Package : Sawn wafer with bump

NFC TAG FOR ITEM-LEVEL AUTHENTICATION

SIC43S1

NFC Forum T2T with
AES-128 encryption

**SIC43NT
SIC43NTG2**

NFC Forum T2T with
Secured Rolling-Code

COMPARISON TABLE

FEATURES	SIC43S1	SIC43NT	SIC43NTG2
Standard	NFC Type 2 Tag		
Memory			
User Memory Size [bytes]	816	144	144
Retention	10 years		
Write cycle [times]	100k	100k	500k
Memory Protection	AES-128 Mutual Authentication	32-bit Password protection	32-bit Password protection
Dynamic NDEF			
UID	14 bytes (ASCII)		
Tamper Status	-	2 bytes (ASCII)	2 bytes (ASCII)
Timestamp	8 bytes (ASCII)		
RLC/SAC	32 bytes (ASCII)	8 bytes (ASCII)	8 bytes (ASCII)
Security			
Mutual Authentication	Yes, AES-128	No	No
Encrypted Communication	Yes, AES-128	No	No
I/O Function			
RF Detection	No	Yes	Yes
Tampering Detection	No	Yes	Yes
Others			
On-chip Capacitor	50pF		
Target Package	Sawn wafer with bump	Sawn wafer with bump, DFN	Sawn wafer with bump

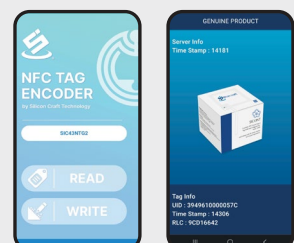
DEVELOPMENT KITS

- SIC43S1 Development Kit: PS1BK0000000S1D0CB
- SIC43NT Development Kit: PNTGK100PB0S1NTD0CB



DEVELOPMENT KIT SUPPORT MATERIALS

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





- SIC4340
- SIC4341
- SIC824B
- SIC4343

SENSOR INTERFACE PRODUCTS



V^{SIC4343} VOLTAGE SENSOR

PRINCIPLE

Chip bias voltage and measure voltage in response to changes in resistance across a sensor (open circuit potential)

APPLICATION

pH, Force, Strain, Ion Elements such as Na⁺, K⁺, Ca²⁺, Mg²⁺, Biomarkers, etc.

P^{SIC4341} POTENTIOSTAT SENSOR

PRINCIPLE

Chip bias voltage to WE-RE and measure current across electrochemical sensor

APPLICATION

Heavy Metal, Glucose, Cortisol, Hepatitis B Virus, Chemical Substances, Biomarkers, etc.



G^{SIC4340} ALVANOSTAT SENSOR

PRINCIPLE

Chip bias current and measure voltage in response to changes in resistance or capacitance across a sensor

APPLICATION

Resistance, Capacitance, Temperature, Water TDS, etc.

GALVANOSTAT SENSOR FAMILY



SIC4340

NFC type 2 tag IC with built-in current source and ADC for galvanostat measurement.

SPECIFICATIONS

Communication Interface

Product Form Factor

Biasing Current Range

Bias Wave Form

Voltage Measurement Range

Measurement Accuracy

Voltage Limiter

Multiplexing

Application Example

SIC4340

NFC Type 2 Tag

QFN, Sawn Wafer with Bump

1 - 63 μ A with 1 μ A / Step
8 - 504 μ A with 8 μ A / Step

- DC
- Square Wave with Selectable Frequency 300 Hz - 50 kHz

0.2 to 1.2 V

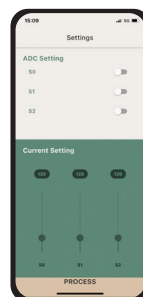
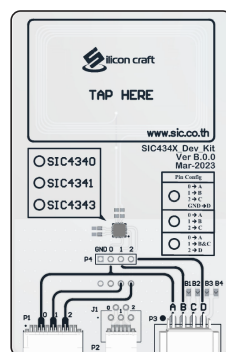
± 1.2 mV

1.28 V

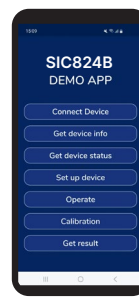
3 Channels

Resistive Sensor
Capacitive Sensor
Temperature Sensor
Water TDS (Total Dissolved Solid)

DEVELOPMENT KIT



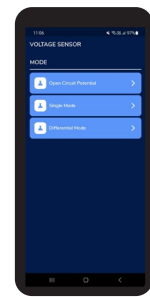
SIC4340



SIC824B



SIC4341



SIC4343

SUPPORT MATERIAL

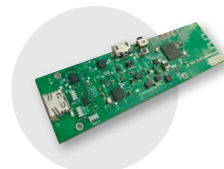
- Demo iOS/android application
- Reference PCB design and schematic diagram
- Reference antenna and antenna design tool

POTENTIOSTAT SENSOR FAMILY



SIC4341

NFC Type 2 tag IC with built-in ADC and potentiostat sensor interface for electrochemical measurement



SIC824B

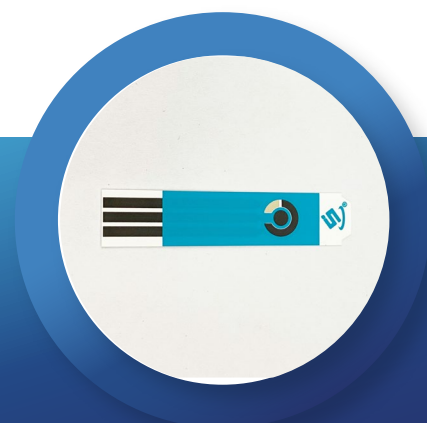
Potentiostat sensor module with bluetooth® 5.2 for electrochemical measurement



SPECIFICATIONS	SIC4341 Potentiostat Sensor Interface	SIC824B Potentiostat Sensor Module
Communication Interface	NFC Type 2 Tag	Bluetooth® 5.2
Product Form Factor	QFN, Sawn Wafer with Bump	PCB
Bias Voltage Range	-0.8 to +0.8 V	- 1.6V to 1.6V (1.6V Dynamic Range) <ul style="list-style-type: none"> • - 1.6 to 0 V • - 0.8 to + 0.8 V • 0 to + 1.6 V
Bias Voltage Resolution	5 mV/Step	5 mV/Step
Current Measurement Range	Selectable ± 2.5 µA ± 20 µA	Hardware fix Customizable Maximum ± 500 µA
Pin Configuration	Configurable WE, RE, CE	Fixed Position
Measurement Accuracy	± 5 nA for ± 2.5 µA Range ± 20 nA for ± 20 µA Range	± 0.1% of Current Range
Compatible Analysis Technique	Amperometry Voltammetry	Amperometry Voltammetry Open Circuit Potential (OCP)
Application Example	Chemical Sensor Biochemical Sensor	Chemical Sensor Biochemical Sensor Potentiometric Sensor

Screen-Printed Electrode (SPE) on PET Substrate 3 Electrodes Including;

- Working Electrode: Graphene (Size: Diameter 3 mm)
- Counter Electrode: Graphene
- Reference Electrode: Ag/AgCl





VOLTAGE MEASUREMENT SENSOR FAMILY



SIC4343

NFC type 2 tag IC with built-in DACs and ADC for voltage measurement which can be configured to single-ended or differential-ended mode.

Single Ended
Voltage Sensor
Interface Chip

Differential Ended
Voltage Sensor
Interface Chip

SPECIFICATION

Communication Interface	NFC Type 2 Tag	
Product Form Factor	QFN, Sawn wafer with bump	
DAC Resolution	8-bit	
Bias Voltage	0.2 to 1.2 V	
Measurement Method	Measure voltage with respect to GND	Measure voltage between 2 pins
Voltage Measurement Range	Input Buffer in Enable 0.2 to 1.2 V Input Buffer in Disable 0 to 1.2 V	-1 to +1 V -1.2 to +1.2 V
Measurement Accuracy	± 1.2 mV	
Sampling Rate	10 sps	
Application Example	Industrial Sensor Chemical Sensor Biochemical Sensor	

REFERENCE CASES

Year	Application	Author	Affiliation	Journal	Reference
2023	Hydroquinone	Charles S. Henry	Colorado State University, US	Electroanalysis	Electroanalysis.2023;35:e202200552
2023	Cortisol	Fabiana Arduini	University of Rome Tor Vergata, Italy	Sensors and Actuators B: Chemical	Sensors & Actuators: B. Chemical 379 (2023) 133258
2023	Breast cancer sensor	Warakorn Limbut	Prince Songkla University, Thailand	Microchimica Acta	Microchimica Acta (2023) 190:232
2022	Formaldehyde sensor	Warakorn Limbut	Prince Songkla University, Thailand	Talanta	Talanta 254 (2023) 124169
2022	Multi-detection, COVID & antibiotic drug	Can Dincer	University of Freiburg, Germany	Materialstoday	Materials Today (2022) 61:129-138
2022	Leptospirosis	Sudkate Chaiyo	Chulalongkorn University, Thailand	Analytical Chemistry	Anal.Chem.(2022) 94: 14583–14592
2022	Heavy metals (As(III), Cr(VI), Hg(II), Pb (II), Cd (II))	Orawon Chailapakul	Chulalongkorn University, Thailand	Microchimica Acta	Microchimica Acta (2022) 189: 191
2022	Pesticides	Chanchana Thanachayanont	National Metal & Materials Technology Center (MTEC), Thailand	IEEE	19th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON) (2022)
2021	Hepatitis-B	Orawon Chailapakul	Chulalongkorn University, Thailand	Sensors and Actuators B: Chemical	Sensors & Actuators: B. Chemical 326 (2021) 128825
2021	NFC-based sensing technologies article	Firat Güder	Imperial College London, UK	Nature Reviews Materials	Nature Reviews Materials volume 6, pages (2021) 286–288



SIC4310
SIC4311



NFC TYPE 2 TAG WITH UART INTERFACE AND ENERGY HARVESTING FUNCTION



Energy
Harvesting



UART &
GPIO Interface

SIC4310 and SIC4311 are NFC type 2 tags with UART interface that bridge data transfer between NFC devices and UART-connected devices such as MCUs.

In addition, SIC4310 and SIC4311 can harvest energy for peripheral circuit up to 10mA from desktop RFID readers or up to 7mA from typical NFC phones. This energy harvesting enables “batteryless” applications that instantly operate when an NFC device is tapped without a battery inside.

Applications

- Shared facility (e.g. washing machine, coffee maker, or printer) personalization and controlling via NFC
- NFC energy harvesting module
- Zero-energy emergency data transfer channel for electricity, water or gas metering
- NFC bridge for medical devices
- Interactive packaging

Features Summary

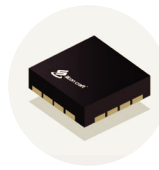
- NFC Forum type 2 tag with additional commands
- Direct data transfer from NFC to UART or vice versa
- Using NFC harvesting energy for self-operation or sourcing externally
- 3.3V on-chip regulator for energy-harvesting output
- NFC Energy harvesting : Up to 10mA capability to power external circuit (depending on output power of NFC device)
- 196 bytes user memory

CONNECTIVITY AND ENERGY-HARVESTING NFC TAG IC



SIC4310

NFC Forum T2T with UART
interface and 8 GPIOs



SIC4311

NFC Forum T2T with
UART interface, 7 GPIOs,
and VBAT3V3 pin

COMPARISON TABLE

SPECIFICATIONS	SIC4310	SIC4311
Communication		
Standard	ISO14443A, NFC T2T	ISO14443A, NFC T2T
Data Rate (kbps)	106	106
Interface	UART	UART
Buffer Size(byte)	64	64
Memory		
Memory Size (byte)	196	196
Data Retention (year)	10	10
Write Cycle (times)	100,000	100,000
Operating Condition		
Operating Temperature	-40 to 85°C	-40 to 85°C
Maximum Standby Current	80µA (use XVDD pin)	0.1µA (use VBAT3V3 pin)
External Input Supply Voltage	2.7V to 3.6V (use XVDD pin)	3.0V to 10.0V (use VBAT3V3 pin)
Maximum Harvesting Current		
Harvest from Mobile Phone	7.82mA @3V	7.82mA @3V
Harvest from Desktop Reader	10.2 mA @2.87V	10.2 mA @2.87V
Pinouts and Peripherals		
GPIO pins	8	7
On-chip Capacitor (pF)	30.3	30.3
Package	QFN3×3 -16 pins	QFN3×3 -16 pins

DEVELOPMENT KIT



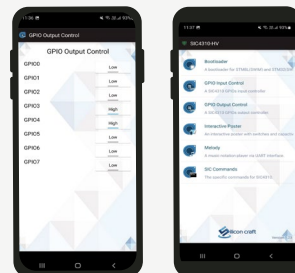
- SIC4310-HV Development Kit :
P10CK081PB0S110D0CBA



- SIC4310-FU Development Kit :
P10CSECR000SN10D1CB

DEVELOPMENT KIT SUPPORT MATERIAL

- Firmware Source Code (SIC4310-FU)
- Demo Android/iOS APP and Source Code
- Reference PCB Design and Schematic Diagram
- Reference Antenna and Antenna Design Tool





SIC73F1 LF INDUSTRIAL TAG

SIC73F1 is a 32mm RFID glass transponder with 1,360-bit multipage read/write memory operating through 134.2 kHz half-duplex protocol. The transponder is robust and well-suited for various industrial tracking applications.

HIGHLIGHT FEATURES

- Half-Duplex Contactless Read/Write Data Transmission
- Multipage Transponder (MPT)
- Drop-in Replacement of RFID Tag for Wafer Carrier
- Robust and High Quality Built

INTERFACE

- Compliant with ISO 11784/11785 HDX Animal Tag ID data
- Support to SEMI E144-0312
- Uplink Modulation: FSK (Frequency Shift Keying)

MEMORY

- 1,360 bits EEPROM
- 17 Pages Read/Write Memory
- 100,000 Erase/Write Cycles
- 10 Years Non-Volatile Data Retention

APPLICATIONS

- Wafer Carrier Tracking
- Industrial
- Access Control



RA10
RA12
RE31
RE41

13.56 MHZ RFID/NFC READER IC

Silicon Craft's 13.56 MHz RFID/NFC reader/writer IC is a single-chip ASIC for 13.56MHz RFID and contactless card reading/writing. It supports major global standards including ISO14443A, ISO14443B, ISO15693, and JIS-X-6319-4

The communication speed can be up to 848 kbps. SIC's RFID/NFC reader/writer IC provides the best performance while consuming very low power to 0.6 μ A* in power-down mode.

*RA12 only



APPLICATION

- Secured Access Control
- Digital Door Lock
- Handheld or desktop RFID reader
- Smart Toys
- Electricity / Gas Metering

FEATURE SUMMARY

- Support standard HF RFID protocols
 - ISO14443A
 - ISO14443B
 - ISO15693
 - JIS-x-6319-4
- Support NFC type 1,2,3,4,5 tags
- SPI interface
- 64-byte send and receive FIFO buffer
- Consumes 1.0 μ A in power down mode (RA10,RE31,RE41)
- Consume 0.6 μ A in power down mode and 4.7 μ A in Low Power Card Detection mode (RA12)

READER IC FAMILY



RA10

ISO14443A



RA12

ISO14443A
ISO14443B
ISO15693
with Low Power Card
Detection



RE31

ISO14443A
ISO14443B
ISO15693
Support 7V TVDD



RE41

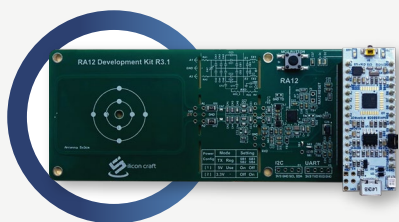
ISO14443A
ISO14443B
ISO15693
JIS-X-6319-4
Support 7V TVDD

COMPARISON TABLE/ORDERING INFORMATION

FEATURES	RA10	RA12	RE31	RE41
	PI3AVQ07P20UT1001E1	PI6BVQL5P60UT1201T1	PI5AVQ07P20UT3101E1	PI5AVQ07P20UT3201E1
Ordering Part Number Protocol				
ISO14443A, up to 848 kbps (NFC tag type 1,2,4A)	●	●	●	●
ISO14443B, up to 848 kbps (NFC tag type 4B)	—	●	●	●
ISO15693, 1 and 2 subcarrier (NFC tag type 5)	—	●	●	●
JIS-X-6319-4 (NFC tag type 3)	—	"Unsecured Memory Only (Need MCU to decoder)"		"Unsecured Memory Only (On-chip HW decoder)"
Operating condition				
Receiver voltage	2.7 - 3.3 V	2.7 - 3.6 V	2.7 - 3.3 V	2.7 - 3.3 V
Transmitter voltage	2.7 - 7 V	2.7 - 5.5 V	2.7 - 7 V	2.7 - 7 V
Operating Temperature	-40 - 85°C	-40 - 85°C	-40 - 85°C	-40 - 85°C
Maximum driving current	200 mA @5V TVDD	250 mA @5V TVDD	300 mA @5V TVDD	300 mA @5V TVDD
Other features				
Interface	SPI	SPI	SPI	SPI
EEPROM (Byte)	—	—	256	256
IRQ pin	●	●	●	●
Low Power Card Detection Function	—	●	—	—
Low Power consumption on Power Down mode	1μA	0.6μA	1μA	1μA
Package	QFN32(5×5)	QFN24(4×4)	QFN32(5×5)	QFN32(5×5)

DEVELOPMENT KIT

- RA12 Development Kit : PI6BK200M10S112B1CB
- RE41 Development Kit : PI5AK200M10S132B1CB



DEVKIT SUPPORT MATERIAL

- Firmware Source Code with Command-Line Instruction via UART
- Demo PC Software (Windows based)
- Reference PCB Design and Schematic Diagram
- Reference Antenna and Antenna Design Tool





SIC61AU UNIVERSAL IMMOBILIZER KEY

SIC61AU is a universal immobilizer transponder for automotive key operating at the low-frequency (LF) range. SIC61AU supports 4 families of LF communication protocol: A, N, S and T family with 14 classical transponder types supported.

HIGHLIGHT FEATURES

- Universally support transponders in the market both HDX and FDX
- Best-in-class reading performance
- Compatible with 4 families and 13 types of conventional immobilizer transponder
- Simple step to transform transponder to each type
- High-Quality and robust transponder package
- Simplify transponders inventory management to handle fluctuating demand in car service center or locksmiths shop



APPLICATIONS

- Immobilizer Key
- Industrial
- Access Control

SUPPORT PRODUCT FAMILY

FAMILY	TYPE	MARKET NAME	
N	Full Duplex 125 kHz	ID46	
		ID46 +EE	
		ID46 Ext.	
		ID47	
		ID4A	
T	Half Duplex 134.2 kHz	ID49	
		ID4C	
		ID4E	
		ID4D	
S	Full Duplex 125 kHz	ID8A	
		T5	
A		ID48	
		ID88	
		ID8C	

ORDERING INFORMATION

Part No : PAUDW503EP0SUAU30C3

Description : SIC61AU-30 Universal immobilizer LF FDX & HDX with multiple encryption wedge 134.2/125kHz, Canister, RFID Tag

Package : Wedge (6.0 mm H x 3.0 mm W x 12.0 mm L, Standard size with OEM)



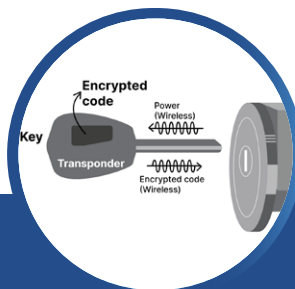
AUTOMOTIVE TRANSPONDER

Silicon Craft Technology PLC (SIC) presents a broad range of compatible automotive transponders with superior performance and reliability, extensively supporting a wide variety of automotive applications.

Experience uninterrupted use with SIC transponders, AEC-Q100 certified for reliable operations.



Fully compatible
with OEM*



Superior read-range



High-reliability circuit
and packaging

AUTOMOTIVE TRANSPONDER PORTFOLIO

SIC6146-6H/BN/EN, SIC6147, SIC614A, SIC6149

SPECIFICATIONS

SPECIFICATIONS	SIC6146-6H	SIC6146-BN	SIC6146-EN	SIC6147	SIC614A	SIC6149
COMPATIBILITY	ID46	ID46+EE ^{*1}	ID46 Ext ^{*1}	ID49-1C, ID47	ID4A	ID49 ^{*1}
SECURITY ALGORITHM	48-bit / H2 32-bit password	48-bit / H2		96-bit / H3	128-bit / H-AES	128-bit / H-Pro
TECHNOLOGY	FDX					
FREQUENCY	125 kHz					
DOWNLINK PROTOCOL	ASK					
UPLINK PROTOCOL	ASK Manchester and Bi-phase with RF/32 data rate					
EEPROM MEMORY SIZE	256-bit	4096-bit				
UNIQUE ID	32-bit					
USER MEMORY	128-bit	128-bit / Ext. 3840-bit	128-bit / Ext. 3584-bit	96-bit / Ext. 3584-bit	64-bit / Ext. 3584-bit	64-bit / Ext. 3584-bit
FORM FACTOR	Wedge					
CAR BRAND ^{*2}	Honda, BMW, Nissan, Hyundai, Chevrolet, Kia, Citroen, Peugeot	Honda, BMW, Nissan, Hyundai, Chevrolet, Citroen, Kia, Peugeot	Chevrolet, Opel, GMC	Honda, Hyundai, Fiat, Mitsubishi, Suzuki, Acura, Jeep, Renault	Nissan, Honda, Infiniti, Jeep, Kia, Hyundai	BMW, Chevrolet, Mini Cooper, Ford, Toyota

SIC614C/D/E, SIC618A, SIC61T5, SIC6148, SIC6188, SIC618C

SPECIFICATIONS

SPECIFICATIONS	SIC614C	SIC614D	SIC614E	SIC618A	SIC61T5	SIC6148	SIC6188	SIC618C
COMPATIBILITY	ID4C ^{*1}	ID4D	ID4E, ID64	ID7A, ID8A	T5	ID48	ID88, MQB48 ^{*1}	ID8C,TEMIC
SECURITY ALGORITHM	Fixed Code	40-bit / D40 80-bit / D80	40-bit / D40	128-bit / D-AES	Fixed Code	96-bit / M2	128-bit / M-AES 96-bit / M2	128-bit / AUT64
TECHNOLOGY	HDX				FDX			
FREQUENCY	134.2 kHz				125 kHz			
DOWNLINK PROTOCOL	ASK							
UPLINK PROTOCOL	FSK uplink at 134kHz /123kHz with RF/16 data rate				ASK Manchester and Bi-phase with RF/32, RF/40,RF/64 data rate	ASK Manchester and Bi-phase with RF/32 data rate		ASK Manchester and Bi-phase with RF/32, RF/64 data rate
EEPROM MEMORY SIZE	80-bit	552-bit	88-bit	3072-bit	160-bit	256-bit	2048-bit	320-bit
UNIQUE ID	80-bit programmable ID	24-bit serial number 8-bit manufacturer code			64-bit /128-bit programmable ID	32-bit	32-bit unique ID1 32-bit unique ID2	64-bit /128-bit programmable ID
USER MEMORY	80-bit	336-bit	8-bit	112-bit / Ext. 1920-bit	128-bit	94-bit	94-bit / Ext.1024-bit	128-bit
FORM FACTOR	Wedge					Glass Tag	Wedge	
CAR BRAND ^{*2}	Ford, Lexus,Mitsubishi, Toyota, Hyundai	Ford, Toyota, Kia Hyundai	Chrysler	Toyota, Subaru, Scion Citroen, Peugeot	Fiat, Audi, Honda	Volkswagen, Audi	Audi, Seat, Skoda, Volkswagen	Mazda, Proton

INFORMATION

*1 Please contact our support team for further product information

*2 Silicon Craft Technology PLC does not possess the intellectual property rights or any licenses for the brands of vehicles, transponders, or commercial names mentioned in this document. The referenced brands and names are utilized solely for the purpose of product communication.