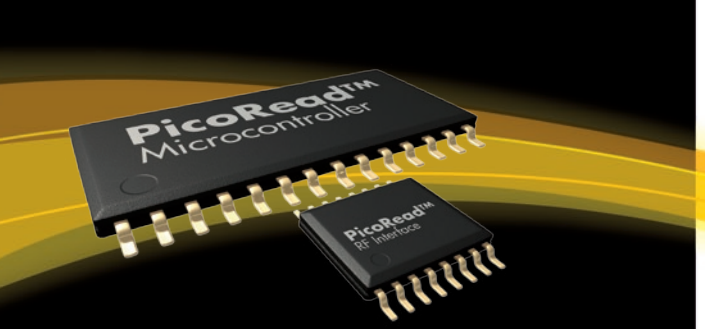


picoread® & picoread® Chipset

Low-cost, Low-power, Multi-standard - 13.56Mhz contactless reader IC

Features picoread®

- **Interoperable with ISO 14443 A&B, ISO 15693, the Sony protocol**
- **Compatible with NFC technology**
- **Operating distance: up to 10cm**
- **Baud rates: 26kbps to 424kbps**
- **Low power consumption: 20mA in active mode, 50µA in standby**
- **Small footprint**
- **Automatic card detection in standby**
- **Evaluation kit available**

Features picoread® Chipset

- **Cryptographic security management**
- **Plug-and-play capability**
- **Serial host interface UART/ISO 7816**
- **250-byte communication buffer**
- **Additional memory for application download**

Applications

- **Physical access control**
- **Logical access control via integration in PCs, laptops, keyboards, and hand held terminals**
- **NFC-enabled handheld devices**

picoread® is a 13.56MHz contactless interface chip for use in large-scale applications. It features the reader-to-reader NFC capability from INSIDE Contactless, which enables devices to act both as readers and cards (or tags).

Small Size, Low Power

OEMs in consumer electronics and infrastructure equipment have limited power and space for integrating new components.

picoread®'s small footprint makes it easy to integrate into host devices, be they door access readers, payment terminals, fare readers, cell phones, or PDAs.

Its low power consumption, and automatic card detection feature in stand-by mode save power in battery-operated devices.

Interoperable

picoread® is interoperable with all transponders and RFID readers compatible with international protocols ISO 14443 A/ B, ISO 15693, and the Sony protocol. It can therefore communicate with millions of existing readers in the installed base worldwide.

Cost-effective

picoread®'s small footprint enables it to be integrated easily into applications where space is critical, like in door access readers, payment terminals, fare validators and in portable devices, thus reducing the cost of the chip.

The picoread® Chipset

The **picoread®** Chipset ensures the **picoread®** chip is easily integrated into a host device. It uses international standard protocols for the host and contactless interfaces. They control the entire communication chain between the host and **picoread®** saving OEMs time and money in the development phase.

Secure

The **picoread®** Chipset provides state-of-the-art security, including secret key management, and encryption to ensure secure authentication and communication with almost all transponders and the host.

make the move inside CONTACTLESS

picoread®

Available Kit

picoread® Kit

Developers can use the **pico***read*® Kit to evaluate INSIDE's technology, making final development and system integration a straightforward experience.

Key Technical Data

Electrical Characteristics

Standby current	50 µA
RF active current (depending on antenna)	50-120 mA
Typical power supply	3.3 V/5 V

General specifications

RF operating frequency	13.56 MHz
Operating temperature	-10°C to 70°C
Operating distance (depending on the size of the antenna)	up to 10 cm
ASK modulation adjustable in range	from 5% up to 100%
Single or differential antenna connections	Yes
RF power level configuration	Yes (Low or High)
Manages frame format, including SOF, EOF,CRC, Parity	Yes
Direct connection to RF Interface (in transparent mode)	Yes
Automatic Card detection	Yes
Digital Interface types	RF chip, SPI and parallel bus

RF Interfaces

ISO standards / baud rate:	ISO 14443 A,B and Sony Protocol / up to 848 kbps, ISO 15693 / 26 kbps
NFC modes / baud rate:	ISO 14443 A,B and Sony Protocol / up to 424 kbps

picoread® Chipset

Key Technical Data

Electrical Characteristics

Standby current	50 µA
RF off	(5/7 mA)
RF on	(55-125 mA)
Typical power supply	3.3 V/5 V

General specifications

Anti-collision management	Yes
pico*pass*® Cryptography	built-in

Interfaces

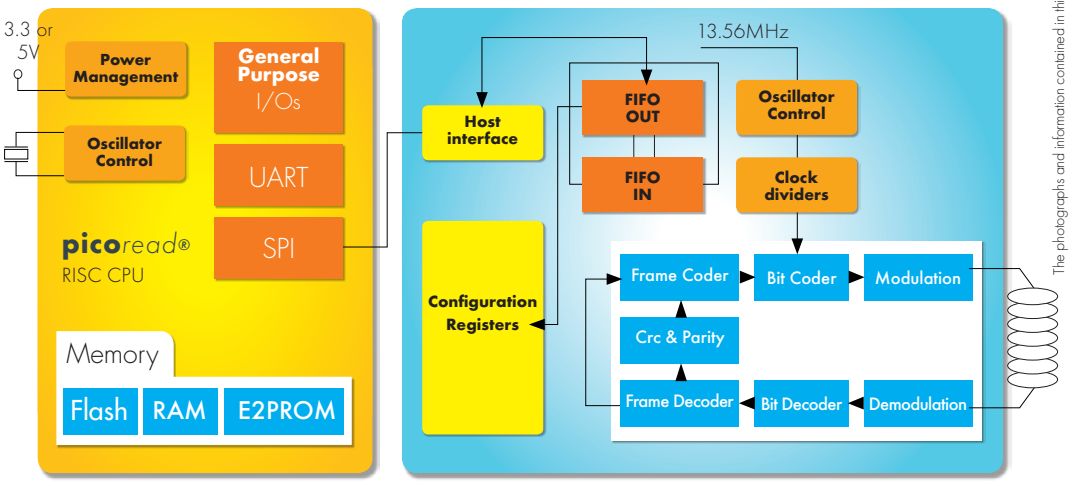
RF protocol interface: Transparent /T=CL / **pico***pass*®/baud rate 424kbps

Packaging (**pico***read*® Chipset features two components)

pico*read*® microcontroler	QFN28
pico*read*® RF interface	SSOP16

(Also available seperatly)

picoread® Chipset Features



picoread® microcontroller

picoread® RF

make the move

inside CONTACTLESS