512 bit Read/Write, ISO15693 Standard Compliant Contactless RW Identification Device

General Description

The EM4133 is a CMOS integrated circuit intended for use in passive contactless Read/Write transponders full compliant with the ISO/IEC 15693 standard.

The user's configurable 448 bit EEPROM memory is organized in 14 words of 32 bits.

Each memory word can be write protect or irreversibly locked. The 32 bit password guaranties a good level of security for the protection of the data memory integrity. Each device contains a 64 bit unique serial number.

The ISO 15693 anticollision algorithm allows operating more tags in the field simultaneously. Moreover, the advanced Quiet Storage feature permits to have faster inventory processes in multi dimensional environments where the reader is multiplexing several antennas and the tags can be in any orientation inside the reader field.

The EM4133 is completely ISO/IEC 15693 compliant. It includes all ISO/IEC15693 mandatory and most part of the optional features, a set of attractive and useful custom commands.
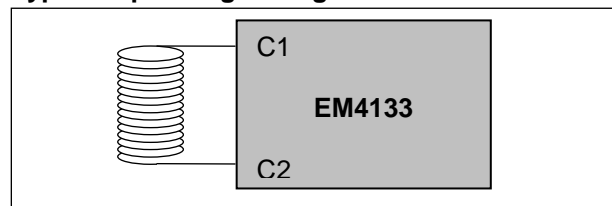
Applications

- ❑ Laundry
- ❑ Access Control
- ❑ Supply chain management and ePedigree
- ❑ Ticketing
- ❑ Asset management

Features

- ❑ ISO/IEC15693 Standard: Fully compliant, support all Mandatory and most part of the Optional commands
- ❑ Operating Frequency: 13.56MHz ± 7kHz (ISM, world-wide licence free available)
- ❑ 64-bit Unique Identifier number (UID)
- ❑ 448 bit user's configurable EEPROM, organized in 14 words of 32 bits
- ❑ 302 bit of user's free memory
- ❑ 32 bit password to protect the data memory integrity
- ❑ Quiet Storage feature to speed up inventory processes
- ❑ Lock feature converts EEPROM words in Read Only
- ❑ Secure data transfers using the Login command
- ❑ Smart Electronic Article Surveillance (EAS)
- ❑ Two different on-chip resonant capacitor: 23.5pF and 97pF (selectable by mask option)
- ❑ ISO/IEC 15693 anti-collision algorithm allowing more tags in reader field at the same time
- ❑ No external supply buffer capacitor needed (passive mode)
- ❑ -40 to +85°C temperature range
- ❑ Bonding pads optimised for flip-chip assembly

Typical Operating Configuration

IC Block Diagram

A COMPANY OF THE SWATCH GROUP