

The RC-S965 FeliCa™ Lite Chip is a contactless IC card chip that includes an optimized file system and streamlined security functions.

The RC-S965 is ideal for various applications including membership ID cards, sales promotions, game applications and so on. As a new member of the FeliCa product lineup, the low-cost RC-S965 proves to be a suitable product for setting up low-priced, contactless IC card systems.



* Printing shown on card is only a sample

Small size &
energy-saving

Streamlined authentication
function

Multiple diverse
applications

OVERVIEW

• Low-cost card chip design

The RC-S965 comes at a low-price compared to conventional FeliCa chips, thanks to streamlined security features and an optimized file system. These features make it ideal for embedding into products where cost is critical, such as sales promotion items, membership ID cards, loyalty cards (point cards), game cards and coupon tickets.

• Usable with the FeliCa system

The RC-S965 uses the same wireless communications system as all FeliCa-compatible products and its command system is backward-compatible with previous FeliCa chips. This means the RC-S965 can be used, unchanged, with previous infrastructures*1 such as the FeliCa Ports and software development products.

*1. Compatibility with FeliCa Lite requires the product to use FeliCa-compatible reader/writer software and/or a PC equipped with a FeliCa Port.

FEATURES

• Compact & energy-saving design

The RC-S965 is a custom designed chip with an energy-saving capability which can operate in a super-low-strength electromagnetic field. This, along with the ultra-thin antenna, allows its use in media other than cards, such as stickers and smart posters.

• ID authentication function

The RC-S965 contains a streamlined authentication function with the reader.

By adding a Message Authentication Code (MAC) to the readout data, the authenticity of the card can be verified by the reader.

• Simple file system

The chip uses a simple file structure that has no hierarchical structure and in which the two stored data access attributes "read-only" or "read/write" can be set in each data block.

• Supports NFC Forum Type 3 Tag

The RC-S965 supports Type 3 Tag operation, as defined by the NFC Forum by storing data as proper format. The chip can communicate with reader that conform to NFC Forum Type 3 Tag Operation.

PRODUCT SPECIFICATIONS

	FeliCa Lite Chip RC-S965
Communication standard	Supports ISO/IEC 18092 (212 kbps Passive communication mode)
Operating frequency	13.56 MHz
Communication speed	212 kbps
User memory	14 blocks (*2)
Memory separation function	None
Reader/writer authentication	Streamlined authentication via triple DES data encryption algorithm
Communication path encryption	None
Supported commands	Only non-encrypted commands
Operating temperature range	-25 °C to +85 °C (Tj)
Storage temperature range	-40 °C to +125 °C (Tj)

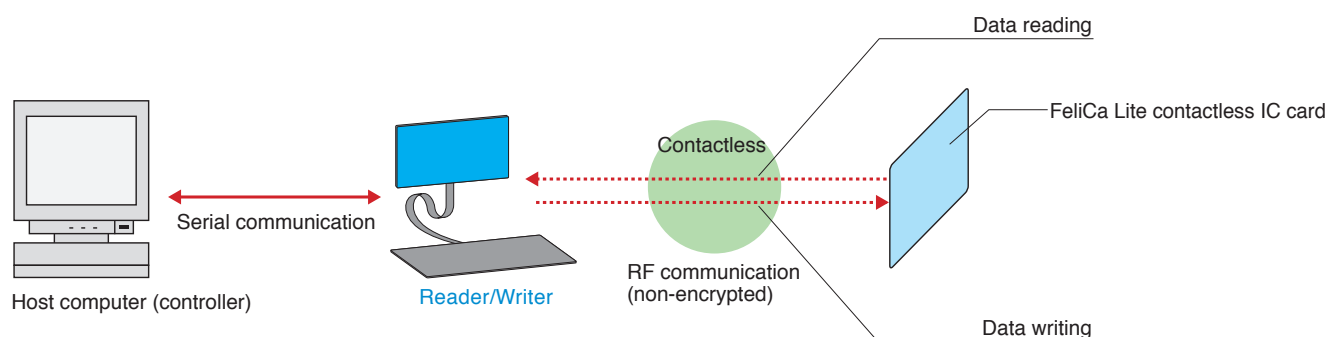
*1 RC-S960 series and RC-S962 series

*2 1 block is equal to 16 bytes

*3 Includes 4 blocks as command blocks

Note: FeliCa Standard (Conventional FeliCa)
Supports ISO/IEC 18092 (212 kbps or 424 kbps Passive communication mode)
13.56 MHz
Supports automatic 212 / 424 kbps switching (*1)
More than 154 blocks (*2,*3)
Yes
Mutual authentication via triple DES data encryption algorithm
Yes
Encrypted and non-encrypted commands
-25 °C to +85 °C (Tj) (*1)
-40 °C to +125 °C (Tj)

TYPICAL SYSTEM LAYOUT



· Specifications and external appearance are subject to change without prior notice.

· FeliCa is a trademark of Sony Corporation.

· FeliCa is a contactless IC card technology developed by Sony Corporation.

· Other system names and product names described in this catalog are generally registered trademarks or trademarks belonging to their respective development manufacturers.

Note that ™ and ® symbols are sometimes purposely omitted from this text.

Sony Corporation

FeliCa Business Division
Professional Solutions Group

2-10-1 Osaki
Shinagawa-ku, Tokyo, 141-8610 Japan

URL: www.sony.net/Products/felica/

As of Mar. 2014
E2012-13-01