

FeliCa

RC-S108

Token

RC-S109

Token Module

Employing AES, the new-generation standard coding system, these products are ideal for use in fields requiring high-level security, such as e-money payment or employee ID authentication.

By including them in products such as wristbands, key fobs, figurines, etc., they can be used for a wide variety of configurations other than cards.

Operates with
AES

High-speed
processing

Compact size



RC-S108



RC-S109

FEATURES

• Operates with AES

In code communications between this product and a reader terminal, in addition to the standard DES (Data Encryption Standard) coding system, the use of AES (Advanced Encryption Standard) realizes stronger security. What's more, the IC chip mounted in this product is the world's first contactless IC card chip to acquire the evaluation assurance level EAL6+ of the Common Criteria (ISO/IEC 15408, the international standard for evaluation criteria in IT security).

• High-speed processing

This product performs such operations as card detection, mutual authentication and data reading/writing in just 0.1 seconds. In addition to operating with a communications speed of 212 kbps, it can handle double that speed, i.e., 424 kbps*. The IC token transmission speed is changed automatically according to the speed of transmission from the reader, thus realizing easier use of the high-speed communications function.

* When using 424 kbps for communications, the reader must be able to operate with 424 kbps communications.

• Automatic error correction in NVM

This product has error-correction functionality. When writing user data to NVM, dedicated data ECC (Error Correcting Code) per 32-bit is written simultaneously. The ECC data is used to correct 1-bit data error when reading user data from NVM. This set of processes is performed automatically.

• Compact size

While maintaining sufficient communication distance and promoting antenna downsizing, it has been possible to achieve a more compact form to broaden the scope of usage.

		RC-S108	RC-S109
Communication distance*1		100 mm (when using RC-S461C) 30 mm (when using RC-S461B) 5 mm (when using USB reader*2)	
Communication method		Conforms to ISO/IEC 18092 (212 kbps / 424 kbps Passive communication mode)	
Operating frequency		13.56 MHz	
Communication speed		212 kbps / 424 kbps automatically switchable*3	
Operating temperature / humidity range (under conditions without dew condensation)		-10 °C to +50 °C / 50% RH or lower; 50 °C to 60 °C / 0% RH	
Storage temperature / humidity range (under conditions without dew condensation)		-20 °C to +70 °C / 60% RH or lower	
External dimensions (token shape)		Diameter: 30 mm; Thickness: 3 mm	Diameter: 26.5 mm
Mass		Approx. 2.4 g	Approx. 0.4 g
Material		Polycarbonate (exterior); Polyester resins (filler)	Epoxy glass substrates FR-4
Non-volatile memory	Size (Type)	6 Kbyte EEPROM	
	User memory	249 blocks (1 block = 16 bytes)	
	Data retention period	50 years (at 25 °C); 10 years (at 85 °C)	
	Write endurance	500,000 times (at 25 °C); 100,000 times (at 85 °C)	

*1 Communication distance depends on the peripheral environment. Under ideal conditions and data transfer rate 212kbps, this value is unaffected by electromagnetic waves or metallic substances.

*2 For more details, see the product specification manual.

*3 To utilize communication at 424 kbps, the reader must be able to communicate at 424 kbps.

● For technical documents about this product, see "Technical Information" on the FeliCa website:
sony.net/Products/felica/business/tech-support/

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

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