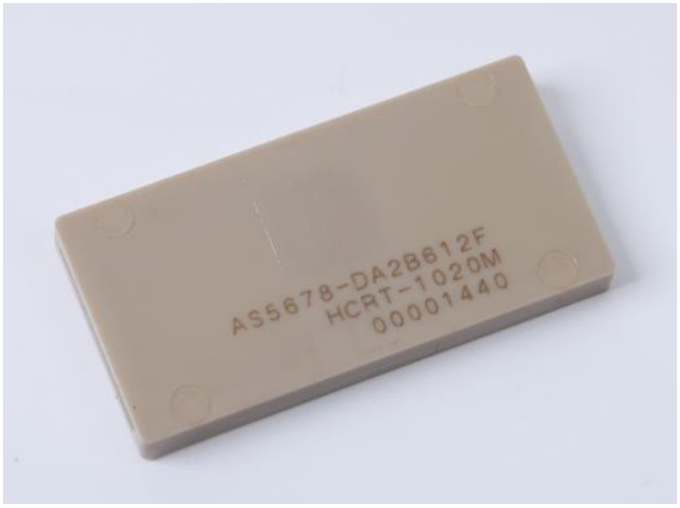
Datasheet
World's Largest-Capacity 64KByte FRAM Metal Mount RFID Tag

World's Largest 64KByte High-Capacity FRAM UHF RFID Tag.
Enable highly efficient, precise global maintenance operations

Fujitsu Limited has developed 64Kbytes world's largest capacity ultra-high frequency (UHF)-band radio frequency identification (RFID) tag with high-capacity FRAM[1], featuring memory capacity sufficient to store large volumes of aircraft part and maintenance history data, while supporting a number of different radio frequencies to enable traceability worldwide.



Equipped with 64KB FRAM memory, the world's highest capacity to date, Fujitsu's RFID tag will enable highly efficient global aircraft maintenance operations by ensuring precise and rapid management of each aircraft part. The tag complies with the EPCglobal[2] Class 1 Generation 2 standard supporting a variety of radio frequencies, which vary by region, and thus provides for global traceability.

Fujitsu's new UHF-RFID tags will deliver high-speed data writing capability and high durability, while also offering state-of-the-art security functions, such as password management for each part of the memory area.

Background

In recent years, the aviation industry has striven to raise the quality and efficiency of aircraft maintenance by improving traceability of parts. In line with this trend, a need has arisen for high-capacity RFID tags which can store not only part identification codes but also product and part maintenance history data.

To satisfy these needs, Fujitsu has developed a 64 KB high-capacity RFID tag memory for the aviation industry. It will increase the quality and the efficiency of aircraft maintenance operations by enabling the traceability of various products and maintenance information for parts exchanged between companies and across nations around the world. Overall, customers will realize improved supply chain management through shorter cycle times and lower costs.

Features and Specifications

Features

World's highest-capacity RFID tags

Featuring 64KB high-capacity FRAM, Fujitsu's RFID tags deliver high-speed data writing capability and high durability. The tags also offer state-of-the-art security functions, such as password management for each part of the memory area.

Compatible with different frequencies used around the world

The new RFID tag can be implemented globally as a result of compliance with the EPCglobal Class 1 Generation 2 standard, supporting a variety of frequencies used in different countries. Furthermore, the tag can be mounted on metal surfaces and meets fire retardancy standards by satisfying the testing requirements for SAE AS5678[3] specifications, which are required to be met for high-quality aviation parts.

Highly efficient aircraft maintenance

The high memory and overall capability of Fujitsu's 64KB RFID tag will enable numerous automated data exchange and data management processes by providing a robust, point-of-use information source, resulting in significant cycle-time and cost reduction opportunities for airline maintenance operations and supply chain management.

Specifications

Standards	EPCglobal Class 1 Generation 2* / ISO/IEC 18000-6 Type C** *Class 1 Generation 2: A transmission standard instituted by EPCglobal, for data transmission between readers/writers and UHF-RFID tags. This is a second-generation standard specification that improves performance of the EPC Class 1 specification. **ISO/IEC 18000-6 Type C: An international standard for UHF-RFID tags, defined by ISO and based on EPCglobal's "EPCglobal Class 1 Generation 2" standard.
Memory size	EPC Bank: 496 bits, User Memory: 64,256 Bytes *User Memory: Refers to the memory area of the RFID tag in which the user can freely read/write, which some low-cost RFID tags do not feature. The user memory size of conventional RFID tags is usually a few hundred bits.
Tag dimensions	2 x 1 inch (Width: 50.8mm, Depth: 25.4mm, Height: 6.22mm)
Weight	13.6 g
Frequency	860-960 MHz (Worldwide)

Glossary & Notes:

1 FRAM: Ferroelectric Random Access Memory (also referred to as FRAM). Memory that uses ferroelectric film as a capacitor for storing data. Featuring advantages of both ROM and RAM devices, FRAM features high-speed access, low power consumption, and high endurance for numerous rewrites.
2 EPCglobal: EPCglobal is a non-profit organization established by GS1 (formerly known as EAN International), which promotes the international standardization of barcodes, and GS1 US™ (formerly the Uniform Code Council, Inc.).
3 SAE AS5678: Issued by the Society of Automotive Engineers (SAE) in December 2006, SAE AS5678 is a standard defining environmental specifications and test methods for passive RFID tags used in aviation applications. SAE has categorized and defined environmental specifications for RFID tag use, for the three environmental categories of "Interior," "Exterior" and "Power Plant".

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