# Fujitsu has launched a 4Mbit FRAM with a guaranteed operation up to 125℃

Non-volatile memory optimal for applications in automobiles and industrial machinery that require high reliability in high-temperature environments

Overview

Fujitsu Semiconductor Memory Solution Limited announced a launch of 4Mbit FRAM MB85RS4MTY, which has the largest density in FRAM products operating up to 125℃. Evaluation samples are currently available.

This new FRAM product is a non-volatile memory that guarantees 10 trillion read/write cycle times and low active currents under the 125℃ high-temperature environment. It is optimal for industrial robots and automotive applications such as advanced driver-assistance systems (ADAS).
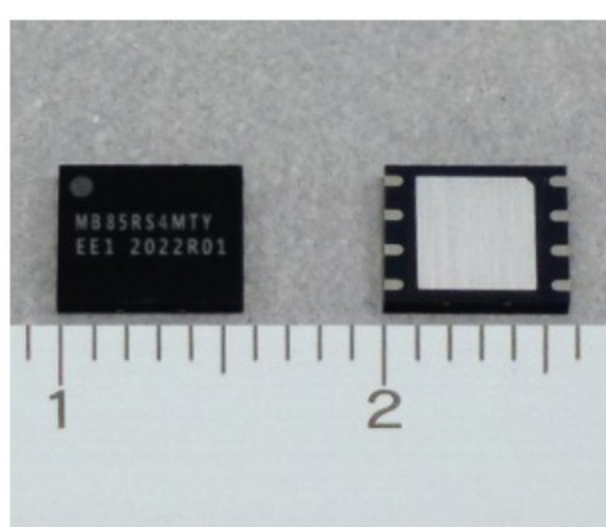
MB85RS4MTY 8-pin DFN (Top・Bottom)

Example of applications suited for FRAM

Details

FRAM is a non-volatile memory product with features of higher read/write endurance, faster writing speed operation and lower power consumption compared to EEPROM and flash memory. FRAM products have been mass-produced for over 20 years and adopted in wearable devices, industrial robots, and drones in recent years.

While the 2Mbit FRAM MB85RS2MTY has been well received for the applications for automobiles and industrial equipment since its release last year, the MB85RS4MTY has doubled the density to 4M bit to meet the demand for larger density and features an SPI interface which operates at a power supply voltage of wide range from 1.8V to 3.6V. Since this FRAM has low operating currents such as a maximum active current of 4mA (operated at 50MHz) and a maximum power-down current of 30μA even at a high temperature of 125℃, it contributes to reducing power consumption of environmentally conscious applications.

The new FRAM guarantees 10 trillion read/write cycle times in the temperature range from -40℃ to +125℃. This characteristic is optimal for some applications that require real-time data logging. For instance, data can be recorded at the same address for 10 years even when the data is rewritten at every 0.03 milliseconds.

This FRAM product is housed in an 8-pin SOP package, making it easy to replace existing EEPROM that has a similar footprint. In addition, 8-pin DFN (Dual Flatpack No-leaded) package is also available.

Fujitsu Semiconductor Memory Solution Limited will continue to supply memory products and solutions for improvement in value and convenience of customers' products.

Key Specifications

Part Number	MB85RS4MTY
Density (configuration)	4Mbit (512K x 8bit)
Interface	SPI (Serial Peripheral Interface)
Operating frequency	50MHz maximum
Operating voltage	1.8V to 3.6V
Operating temperature range	-40℃ to +125℃
Read/Write endurance	10 trillion times (10^{13} times)
Package	8-pin DFN, 8-pin SOP

Datasheets

> MB85RS4MTY (PDF : 2.10 MB)

> (Reference) MB85RS2MTY (PDF : 1.64 MB)