

New 1 Mbit and 2 Mbit FRAM products released by Fujitsu

March 18 2013

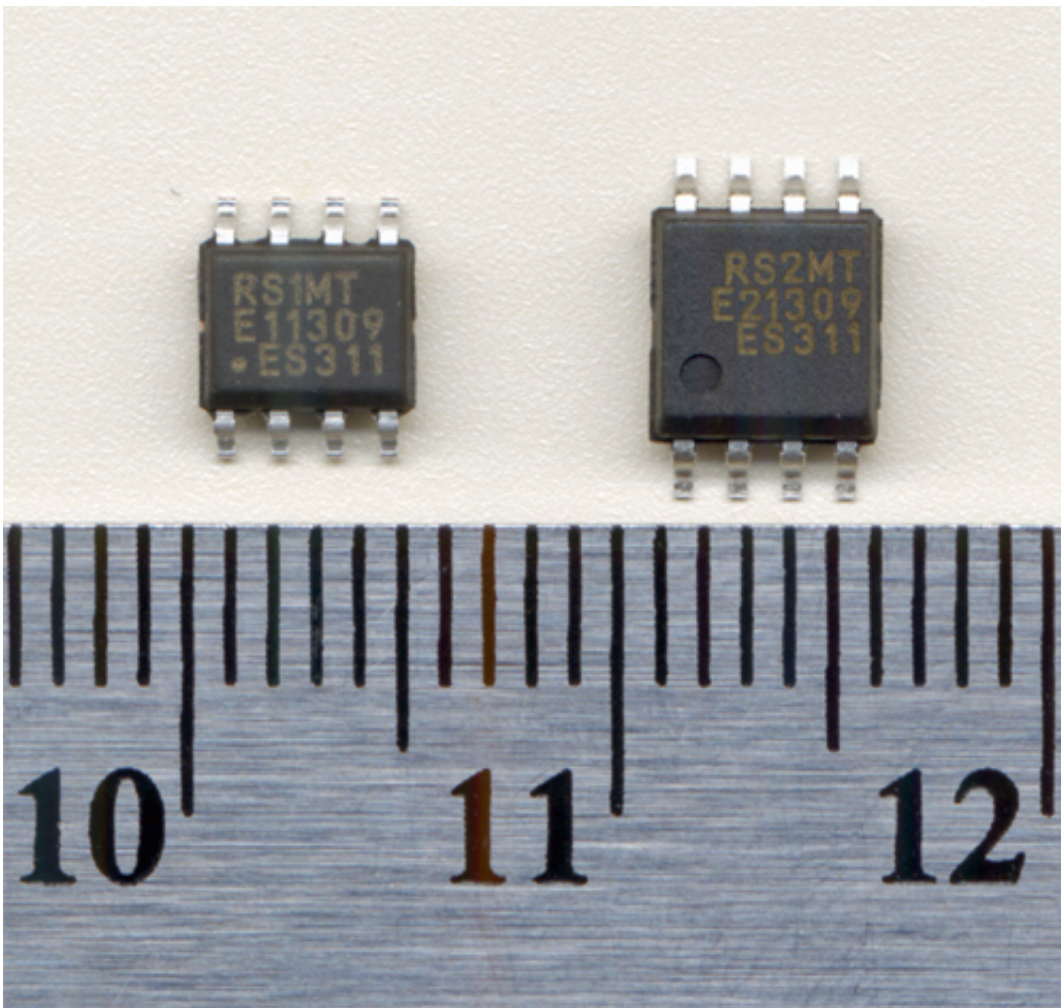


Figure 1. MB85RS1MT/MB85RS2MT

Fujitsu Semiconductor today announced the development of two new

FRAM products, MB85RS1MT and MB85RS2MT, which feature 1 Mbit and 2 Mbit of memory, respectively, making them the largest density serial-interface FRAM products offered by Fujitsu Semiconductor. The new products will be made available in sample quantities starting end of March 2013.

The two new FRAM products guarantee 10 trillion read/write cycles, roughly ten times more than existing chips, making them optimal for use in applications such as smart meters, industrial machinery and [medical devices](#). Compared to identical density EEPROM, MB85RS1MT and MB85RS2MT consume 92% less power during writing. In addition, because the new FRAM products can incorporate all the technology required for system memory components—which have typically consisted of EEPROM, SRAM and a battery for [data retention](#)—into a single chip, it is possible to substantially reduce component costs, mounted area, and power consumption. This, in turn, will also greatly contribute to the development of smaller, power-efficient equipment for which maintenance can be easily performed, since backup battery is not necessary.

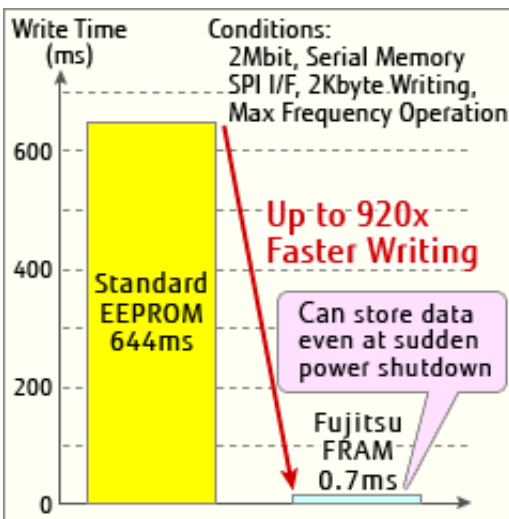


Figure 2. Read/Write Cycle Comparison.

FRAM is a type of memory that features both non-volatility, which allows data to be retained even when the power is switched off, and random access, which enables fast data writing. Because FRAM can safely store data that is being written even at sudden power source failures and [power outages](#), it is possible to ensure the protection of equipment information and data recorded immediately preceding a [power source](#) outage. Based on this capability, since launching [volume production](#) in 1999 FRAM products from Fujitsu Semiconductor have been widely employed for use primarily in factory automation equipment, measurement devices, banking terminals, and medical devices.

As an update to its lineup of FRAM products, Fujitsu Semiconductor has recently developed MB85RS1MT (1 Mbit) and MB85RS2MT (2 Mbit), which represent the company's largest density FRAM products to date to feature an SPI serial interface. Both products feature an improved guaranteed read/write cycle count of 10 trillion cycles, which is ten times more than Fujitsu's existing FRAM products, providing even better support for real-time, continuous data recording.

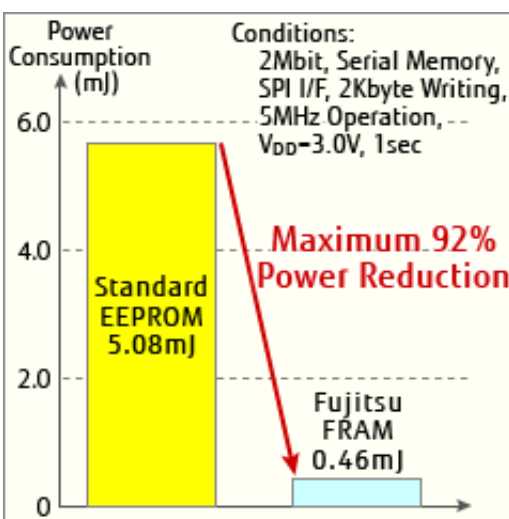


Figure 3. Power Consumption Comparison.

For applications including [smart meters](#) and other measurement devices, as well as industrial machinery and medical devices such as hearing aids—all of which to date have required 1-2 Mbit non-volatile memory with a serial interface—it is now possible to replace conventional EEPROM with Fujitsu Semiconductor's new FRAM products. The resulting improvements in fast writing can lead to greater performance, while also minimizing the risk of data loss from sudden voltage drops or power outages. In terms of power consumed during writing, as well, the new products consume 92% less power than EEPROM, thereby helping to extend battery life.

Moreover, for industrial machinery that employs SRAM for data recording and EEPROM for storing parameters and programs, the new FRAM products can incorporate these capabilities into a single chip, allowing for a reduction in the number of memory components required and obviating the need for batteries for data retention. The memory itself can also be shrunk into a smaller package size, making it possible to reduce the mounted area required for memory components by over 90%. As a result, the new FRAM products help to reduce the size of end products, eliminate the need for battery replacement maintenance, and cut [power consumption](#), in addition to contributing to lower component costs.

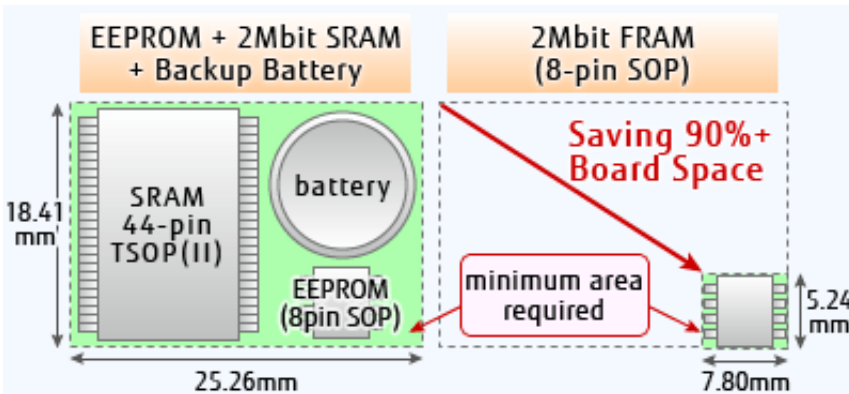


Figure 4. Mounted Area Comparison.

Going forward, Fujitsu Semiconductor will continue to deliver solutions that assist customers in improving the performance of end products, in facilitating maintenance on live equipment, and in minimizing risk.

Provided by Fujitsu

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