Fujitsu Semiconductor Releases 64 Kbit FRAM with Best-in-Class Operational Power Consumption

Non-volatile memory optimal for miniature, low power consumption uses

Fujitsu Semiconductor Limited announced the release of the MB85RC64TA, 64Kbit FRAM with the industry's lowest operational power consumption. Samples are now available.

This FRAM product uses the I2C interface that can operate at a maximum of 3.4 MHz, and which operates with a wide range of power supply voltage, from 1.8V to 3.6V. It features an extremely low average current of 170 µA when operating at 3.4 MHz, and of 80 µA when operating at 1 MHz.

Fujitsu Semiconductor has prepared an industry-standard 8-pin small outline package (SOP), and also a miniature 8-pin small outline non-leaded package (SON). This product is ideal for devices that require miniature electronic components with low power consumption, such as battery-operated wearable devices, measurement devices, and smart meters.

Fujitsu Semiconductor provides batteryless solutions for the wearable and IoT market using FRAM and its features of non-volatility, high-speed writing, high read/write endurance, and low power consumption.

Now, in response to the market demand for lower power consumption, Fujitsu Semiconductor has developed the MB85RC64TA, 64Kbit FRAM that offers the lowest class of operating current among Fujitsu's FRAM product line (Figure 1).

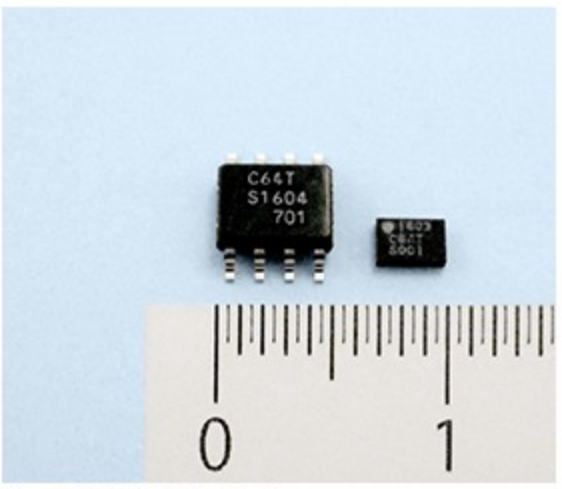

Figure1: MB85RC64TA Packages

This product with I2C interface operates with a wide range of power supply voltage, from 1.8V to 3.6V, at up to 3.4MHz and offers as major features extremely low average current when operating (170 µA at 3.4 MHz, 80 µA at 1 MHz). It offers an approximately 80% reduction in operating power consumption compared with Fujitsu Semiconductor's existing products (Figure 2), achieving the lowest industry class of operating power consumption for 64Kbit FRAM.

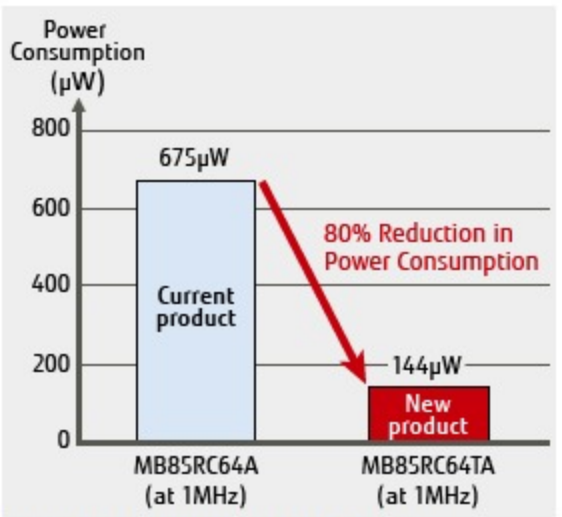

Figure2: Power Consumption in Active Mode

Fujitsu Semiconductor offers this product in an industry-standard 8-pin SOP, and also in a small-sized 8-pin SON. The mounting area for the SON is about 20% that of the SOP (Figure 3), and the mounting volume is 8% that of the SOP, making it optimal for applications requiring miniaturization.

The MB85RC64TA, featuring low power consumption in a small package, is expected to be used as memory in such devices as battery-operated wearables and measurement devices, smart meters, and gas and water meters.

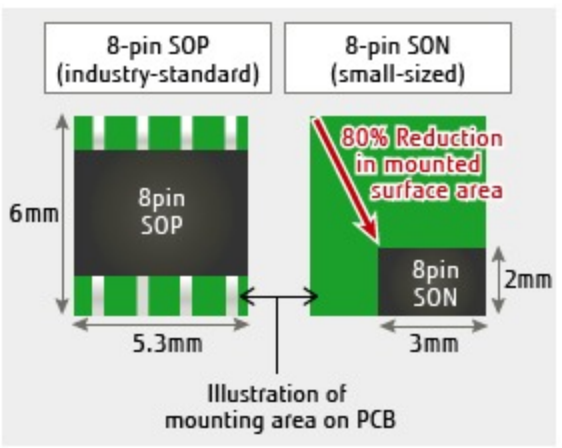

Figure3: Mounting Area Comparison

Fujitsu Semiconductor will continue to provide products and solutions to improve the values and convenience of customers' applications.

Key Specifications

- Part Number: MB85RC64TA
- Density (configuration): 64Kbit (8K x 8bit)
- Interface: I^2C (Inter-Integrated Circuit)
- Operating voltage: 1.8V to 3.6V
- Low power consumption:
  - Active current
    - 170µA (Typ, at 3.4MHz)
    - 80µA (Typ, at 1MHz)
  - Standby current
    - 8.0µA (Typ)
- Guaranteed read/write cycles: 10 trillion times
- Data retention: 10 years (at +85℃)
- Package: 8-pin SON, 8-pin SOP

Related Links

- Fujitsu Semiconductor site
- FRAM Top page
- 64Kbit FRAM "MB85RC64TA" datasheet