

Low-energy Mavriq™ Non-volatile Serial EEPROM

Mavriq serial EEPROM is new memory for the IoT and other energy-conscious applications. With fast programming, low energy write and low power consumption, Mavriq memory enables a new class of connected devices.

The Internet of Things promises a host of new applications that bring intelligence to everything around us – from workout monitors and smart houses to industrial controls and environmental sensors.

Much of the work to process data is performed at the sensor itself, where data is collected and analyzed. Non-volatile memory is essential to these devices – memory that requires very low power and consumes very low energy, at a low cost to integrate into the system.

To address these issues, Adesto introduces the RM24/RM25C-Series family; robust products based on Adesto’s breakthrough CBRAM® technology. Mavriq serial EEPROM products offer device designers functional and electrical compatibility with today’s serial EEPROMs.

With high reliability and excellent performance, Adesto’s low-energy Mavriq memory solutions are perfectly matched to the new design requirements of the IoT.

Fast, Low Energy Write

**Byte write energy consumption:
~50 nanojoules**

**Byte write operation: 25 μs
50-100X faster than similar EEPROMs**

RM24/RM25C-Series Non-volatile Serial Memory Features and Benefits

- Low power/low energy operation extends system battery life
- Ultra-fast write speeds
- Unlimited read cycles
- Write protect of the entire memory array
- Optional OTP security register
- Available in I²C and SPI protocols



Density	Vcc Range	BUS	Packages SOIC TSSOP DFN WLCSP	OTP Security Register	Production
32Kbit	2.7-3.6V	SPI or I2C	• •	Optional	Now
	1.65-3.6V		• • • *	Optional	Now
64Kbit	2.7-3.6V	SPI or I2C	• •	Optional	Now
	1.65-3.6V		• • • *	Optional	Now
128Kbit	1.65-3.6V	SPI or I2C	• • • *	Optional	Now
256Kbit	1.65-3.6V	SPI or I2C	• • • *	Optional	Now
512Kbit	1.65- 3.6V	SPI or I2C	• • • *	N/A	Now

* Contact Adesto for WLCSP availability.

Features

- Memory Array: 32Kbit-512Kbit of Serial EEPROM Memory
 - 2-wire I²C/ 4-wire SPI Interface
 - Single Supply Voltage: 1.65-3.6V or 2.7-3.6V
 - Page Size: 32 or 64 bytes, Byte and Page Write from 1 to 64 bytes
 - Byte Write - 25µs, Page Write - 1ms*
 - Optional OTP Security Register (64/128-byte)
 - Unlimited Read Cycles (Random and Sequential Modes)
 - 0.6µA Standby Current*
 - 0.25mA Read Current, 1mA Write Current *
 - Compatible with I²C Bus Modes: 100KHz, 400KHz, 1 MHz*
 - 16MHz clock rate for fast read (SPI Bus)*
 - Write Protect of the Whole Memory Array
- * Typical performance on 1.65-3.6V Vcc products

Description

The RM24/25 C-Series products are a family of I²C/SPI serial EEPROM solutions. Available in 32-Kbit to 512-Kbit densities, the devices utilize Adesto's Mavriq serial memory to provide high data retention and low power performance with a single low-voltage supply ranging from 1.65 to 3.6V or 2.7V to 3.6V.

All devices have both byte write and page write capability. Write operations are internally self-timed and the devices also feature a whole-chip erase function.

Adesto Technologies is a leading supplier of value-added semiconductor solutions for code and data storage. Its product portfolio includes DataFlash®, Fusion Serial Flash, Mavriq™ and Moneta™ serial memory products. Adesto is based in Santa Clara, California (USA). For more information, visit <http://www.adestotech.com>.



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