Ultra-Low Power Moneta™ Non-volatile Serial Memory

Adesto introduces Moneta serial memory, the world's lowest power non-volatile memory. With the ability to Read and Write at 50-100x lower power than comparable memory products, Moneta memory is uniquely suited to new, ultra-low energy IoT electronics and enables applications never before possible in energy harvesting and other energy-conscious system designs.

Virtually every one of the billions of devices projected to populate the Internet of Things requires programmable memory to satisfy its need for code storage, data logging, and other storage functions.

Many of these devices are battery-operated and depend on low energy components to ensure longer battery life. In some cases, designers developing IoT nodes are even working toward battery-free operation, using energy harvested from the environment for operation. Adesto's Moneta serial memory products make these designs possible, by providing the lowest power non-volatile operation available. By consuming less energy during standard operation, Moneta memory can extend battery life and/or allow designers flexibility to use smaller batteries to power their systems.

In addition to its inherent low power technology capability, Moneta employs innovative power-saving features to save energy, automatically switching to deep power down between transactions, and providing ultra-deep power down at a typical power consumption of 50nW. Moneta even helps save system power by allowing the MCU to power down before a write operation is complete.

In addition, the Moneta RM3000/RM3300 Series fast write capabilities require no pre-erase, reducing the burden on the MCU and lowering energy requirements.

With its ultra-low energy consumption, Moneta serial memory is perfectly matched to the new design requirements of the Internet of Things.

Inventing Memory for Things™

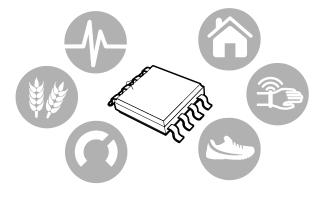| **Ultra Low Power NVM** |
|:---:|
| **Ultra-Deep Power Down: 0.05 µW** |
| **Read Power: 10 µW**
Write Power: 7.5µW
50-100X lower than EEPROM devices |

Moneta Non-volatile Serial Memory Features and Benefits

- **Ultra-low power/low energy operation extends system battery life**
- **128-byte, One-Time Programmable (OTP) Security Register for authentication and serialization**
- **Write protect of the entire memory array**
- **Available in SPI protocol**

For more information on Moneta serial memory, please visit: www.adestotech.com

Features

- Memory Array: 32, 64, 128, 256-Kbit of Serial Memory
- 4-wire SPI Interface
- Page Size: 32 bytes, Byte and Page Write from 1 to 32 bytes
- 128-byte, One-Time Programmable (OTP) Security Register

- Random and Sequential Read Modes
- 10µW Read Power, 7.5µW Write Power
- 0.05µW Ultra Deep Power Down
- 1MHz clock rate (SPI Bus)
- Write Protect of the Whole Memory Array

Description

The Moneta RM3000/RM3300 Series products are SPI serial memory solutions. Available in 32-256Kbit densities, the devices utilize Adesto's CBRAM® resistive memory technology to provide high data retention and ultra-low power performance.

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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