



DataFlash® | Serial Flash

Code and Data Storage Solutions for the Connected World

Low-power, high-performance semiconductor technologies enabling designers to develop next generation solutions for consumer, communication, mobile and industrial applications

As modern electronics evolve, the need for new low density, low energy data and code storage memory devices has emerged to meet the needs of mobile, wearable, and industrial applications in a connected world.

System designers manage their total energy budget by selecting the most energy efficient semiconductor devices available and employ careful design in their software and hardware.

Adesto® offers a complete portfolio of code and data storage memory solutions that help designers extend the battery life of devices in many applications. Applications include wireless and wired protocols such as Bluetooth low energy products, DECT ULE (Ultra Low Energy), ZigBee RF4CE, Z-Wave and other Wi-Fi and Wi-Fi Direct platforms.

DataFlash is low pin count, feature rich, sequential access memory. DataFlash enables energy efficient, lower cost systems through its advanced design and architecture. Its ultra-low energy consumption and active features reduce the CPU/MCU power signature and extend battery life.

DataFlash: Features and Benefits

- **Ultra low power operation extends system battery life — ultra deep power down operates at <400 nA**
- **Wide VCC operating range allows the system memory to operate over the entire battery voltage range**
- **Efficient byte-write and internal program and erase commands reduce CPU overhead by offloading burdensome memory management tasks**
- **Comprehensive security and unique ID features to protect the device and prevent outside tampering**
- **One device can store both code and data**

Applications: Digital images, digital voice, text, data and program code in industrial, computer, communications, security, medical and consumer electronics

DataFlash®

Density	Vcc Range	Speed (MHz)	Ultra-Deep Power Down	Byte Write Capability	Low Power Read	Read While Write Capability	Dual SRAM Buffers	Enhanced Security Features
1-Mbit	2.70-3.6V	70						✓
2-Mbit	1.65-3.6V	70	✓	✓	✓			✓
4-Mbit	1.65-3.6V	104	✓	✓	✓	✓	✓	✓
8-Mbit	1.70-3.6V	133	✓	✓	✓	✓	✓	✓
16-Mbit	2.30-3.6V	104	✓	✓	✓	✓	✓	✓
32-Mbit	2.30-3.6V	104	✓	✓	✓	✓	✓	✓
64-Mbit	1.70-3.6V	104	✓	✓	✓	✓	✓	✓

Adesto's Serial Flash family includes Fusion Serial Flash and standard block erase memory products. Adesto's Fusion Serial Flash products combine industry standard sector sizes, block erase and read/write commands with low energy operation, powerful energy management options and page erase features. Together, Adesto Serial Flash products provide a high level of flexibility for a wide variety of code storage applications.

Fusion Serial Flash: Features and Benefits

- Wide Vcc operating range extends system battery life without sacrificing performance (Vcc Range 1.65-3.6V)
- Ultra deep power down operates at <200nA significantly reducing system standby power
- Page erase enables faster programming and updates
- Advanced security functions and embedded serial numbers provide anti-tamper and traceability options

Standard Serial Flash: Features and Benefits

- SPI industry-standard compatibility
- 4KB, 32KB, and 64KB block erase sizes provide flexibility for code management



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Fusion — Enhanced Serial Flash

Density	Vcc Range	Speed (MHz)	Ultra-Deep Power Down	Active IRQ	Page Erase Capability	Enhanced Security Features
256-Kbit	1.65-3.6V	104	✓		✓	✓
512-Kbit	1.65-3.6V	104	✓		✓	✓
1-Mbit	1.65-3.6V	104	✓		✓	✓
2-Mbit	1.65-3.6V	104	✓	✓	✓	✓
4-Mbit	1.65-3.6V	104	✓	✓	✓	✓

Standard Serial Flash

Density	Vcc Range	Speed (MHz)	Block Erase Sizes	Standard SPI Compatibility	Security Features
4-Mbit	2.5-3.6V	104	4, 32, 64	✓	✓
8-Mbit	2.5-3.6V	104	4, 32, 64	✓	✓
8-Mbit	1.65-1.95V	85	4, 32, 64	✓	✓
16-Mbit	2.5-3.6V	104	4, 32, 64	✓	✓
16-Mbit	1.65-1.95V	85	4, 32, 64	✓	✓
32-Mbit	2.5-3.6V	104	4, 32, 64	✓	✓
32-Mbit	1.7-1.95V	104	4, 32, 64	✓	✓
64-Mbit	2.7-3.6V	104	4, 32, 64	✓	✓
64-Mbit	1.7-1.95V	104	4, 32, 64	✓	✓
128-Mbit	1.7-1.95V	104	4, 32, 64	✓	✓

Applications: Designed for a wide variety of high-volume consumer applications in which program code is shadowed from Flash memory into embedded or external RAM