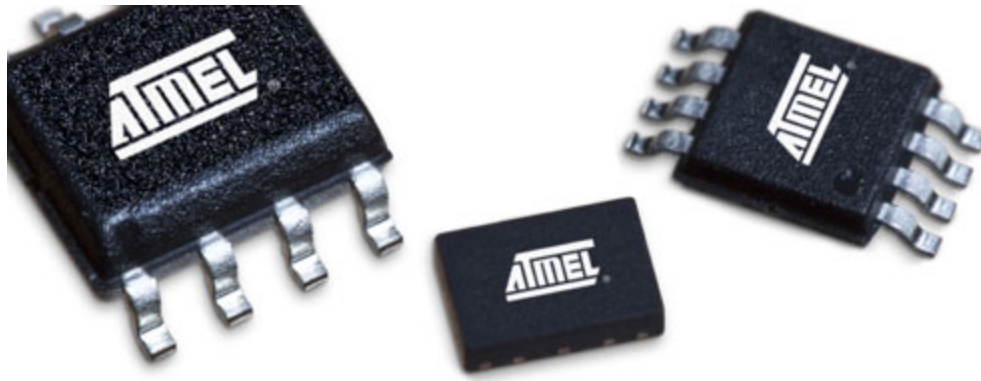


Serial Flash



Key Features

- **Flexible offering** — With two Serial Flash families to choose from, system designers can select the device that best meets their specific application requirements for storing any type of data whether it is boot code, program code, vital preference data or logged data.
- **SPI interface** — The simple serial peripheral interface (SPI) greatly reduces pin counts and simplifies routing, which conserves circuit board space and reduces switching noise, manufacturing complexity, and lowers overall system cost.
- **Superior functionality** — The full-featured DataFlash family takes SPI Serial Flash to the next level with its flexible page erase architecture and its advanced protection and security features to enable system integration, robustness and cost reduction.
- **Easy migration** — All Atmel SPI devices are pin-compatible and require only 4 pins to connect to the MCU allowing for an easy migration path to higher densities without any board changes.
- **Tamper proof** — The advanced security and protection features allow any combination of sectors to be individually protected and/or permanently locked to ensure vital code and data remains protected while other portions of memory are updated.
- **Page erase** — The DataFlash's small page erase architecture allows key software routines, parameters and user data to be stored more efficiently, so that memory space isn't wasted by having to allocate large sectors for different types of code or data.
- **Block erase** — While not as granular as DataFlash, the uniform block erase architecture in the AT25D series is ideal for embedded code and data storage in a wide variety of applications.

Serial Flash Devices

| Device Family | Summary Benefit | Applications | Technologies | Key Parameters |
|---------------|--|---|--|--|
| DataFlash | SPI compatible Serial Flash Page erase architecture allows erasing as little as 256 bytes of memory Extra memory in every device (up to 2-Mbits extra in a 64-Mbit device) Advanced memory protection and security features to better protect firmware and data | Code shadowing and data storage applications such as Smart Energy Meters, STBs (set-top boxes), GbE LAN controllers, DECT phones, industrial controls, etc. | Low voltage operation | 1-Mbit to 64-Mbits Up to 100MHz operation Dual-I/O and Quad-I/O As low as 2.3V operation 8-lead SOIC and UDFN BGA/WLCSP options |
| | | | Dual, independent SRAM buffers Configurable page size Individual sector protection Individual sector lockdown (ROM) 128-byte security register | |

Program/erase suspend and resume

Low voltage operation

Individual sector protection

SPI compatible Serial Flash

Code shadowing and data storage applications such as PC BIOS, DVD players, LCD TVs, portable consumer products, etc.

Individual sector lockdown (ROM)

512-Kbit to 64-Mbits

Up to 100MHz operation

Block erase architecture (4KB, 32KB, and 64KB)

128-byte security register

Dual-I/O

Advanced memory protection and security features to better protect firmware and data

Program/erase suspend and resume

As low as 2.3V operation

8-lead SOIC and UDFN

BGA/WLCSP options

Block Erase

Low voltage operation

Individual sector protection

SPI compatible Serial Flash

Code shadowing and data storage applications such as PC BIOS, DVD players, LCD TVs, portable consumer products, etc.

Individual sector lockdown (ROM)

8-Mbit to 64-Mbits

Up to 100MHz operation

Block erase architecture (4KB, 32KB, and 64KB)

128-byte security register

Dual-I/O and Quad-I/O

Advanced memory protection and security features to better protect firmware and data

Program/erase suspend and resume

As low as 2.3V operation

8-lead SOIC and UDFN

BGA/WLCSP options

Quad-I/O Block Erase

Low voltage operation

Individual sector protection

SPI compatible Serial Flash

Code shadowing and data storage applications such as PC BIOS, DVD players, LCD TVs, portable consumer products, etc.

Individual sector lockdown (ROM)

Up to 100MHz operation

Block erase architecture (4KB, 32KB, and 64KB)

128-byte security register

Dual-I/O

Advanced memory protection and security features to better protect firmware and data

Program/erase suspend and resume

As low as 1.65V operation

8-lead SOIC and UDFN

BGA/WLCSP options

1.8V Block Erase

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