

## Industry-Standard Code Storage Solutions

*Serial Flash code storage solutions designed for a wide variety of high-volume consumer and industrial applications*

Adesto introduces the AT25SF Series, a new family of industry-standard Serial Flash memory products. The new products target high-volume, consumer-based and industrial applications in which program code is shadowed from flash into embedded or external RAM for execution.

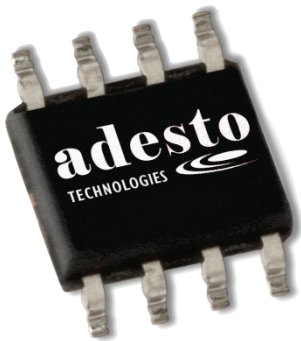
The AT25SF series incorporates a uniform, block-erase architecture to provide a high level of flexibility for a wide variety of code storage applications. The SPI-compatible 2.5V to 3.6V products feature up to 104 MHz operating speed and fast program and erase times. The devices also include security features such as a programmable security register and hardware controlled locking of protected blocks.

### Standard Serial Flash: Features and Benefits

- **SPI industry-standard compatibility**
- **4KB, 32KB, and 64KB block erase sizes provide flexibility for code management**
- **Dual and quad I/O buses for increased read throughput**
- **4, 8, 16 and 32-Mbit devices with companion high-density, low-Vcc products in development (64/128 Mbit, AT25SLxxx)**

For more information on Adesto's code and data storage solutions, visit: [www.adestotech.com](http://www.adestotech.com)

### Standard Serial Flash



Part Number	Density	Vcc Range	Speed (MHz)	Block Erase Sizes	Standard SPI Compatibility	Security Features
AT25SF041	4-Mbit	2.5-3.6V	104	4, 32, 64	✓	✓
AT25SF081	8-Mbit	2.5-3.6V	104	4, 32, 64	✓	✓
AT25SF161	16-Mbit	2.5-3.6V	104	4, 32, 64	✓	✓
AT25SF321	32-Mbit	2.5-3.6V	104	4, 32, 64	✓	✓
AT25SL641	64-Mbit*	1.65-1.95V	104	4, 32, 64	✓	✓
AT25SL128	128-Mbit*	1.65-1.95V	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**

\* In development.

## Features (AT25SFxxx)

- Single 2.5V - 3.6V Supply
- Serial Peripheral Interface (SPI) Compatible
  - Supports SPI Modes 0 and 3
  - Supports Dual and Quad Output Read
- 104MHz Maximum Operating Frequency
  - Clock-to-Output (tV) of 6 ns
- Flexible, Optimized Erase Architecture for Code and Data Storage Applications
  - Uniform 4-Byte Page erase
  - Uniform 32-Kbyte Block Erase
  - Uniform 64-Kbyte Block Erase
  - Full Chip Erase
- Hardware Controlled Locking of Protected Sectors via WP Pin
- Three Protected Programmable Security Register Pages
- Flexible Programming
  - Byte/Page Program (1 to 256 Bytes)
- Fast program and erase times
  - 0.7ms Typical Page Program (256 Bytes) Time
  - 70ms Typical 4-Kbyte Block Erase Time
  - 300ms Typical 32-Kbyte Block Erase Time
  - 600ms Typical 64-Kbyte Block Erase Time
- JEDEC Standard Manufacturer and Device ID Read
- Low Power Dissipation
  - 200nA Ultra Deep Power Down (Typical)
  - 5µA Deep Power-Down (Typical)
  - 25uA Standby current (Typical)
  - 5mA Active Read Current (Typical)
- Endurance: 100,000 Program/Erase Cycles
- Data Retention: 20 Years
- Complies with Full Industrial Temperature Range
- Industry Standard Green (Pb/Halide-free/RoHS Compliant) Package Options
  - SOIC, DFN and TSSOP Packages

## Description

The Adesto® AT25SF Series is designed for use in a wide variety of high-volume consumer based applications in which program code is shadowed from Flash memory into embedded or external RAM for execution. The erase block sizes of the AT25SF041 have been optimized to meet the needs of today's code storage applications. By optimizing the size of the erase blocks, the memory space can be used much more efficiently.

The device also contains three pages of Security Register that can be used for purposes such as unique device serialization, system-level Electronic Serial Number (ESN) storage, locked key storage, etc. These Security Register pages can be individually locked.

**Adesto Technologies** is a leading supplier of value-added semiconductor solutions for code and data storage. Its product portfolio includes DataFlash®, Serial Flash and Conductive Bridge RAM (CBRAM®) memory products. Adesto is based in Sunnyvale, California (USA). For more information, visit <http://www.adestotech.com>.



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