

## Industry-Standard Code Storage Solutions

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

Adesto introduces the AT25SF and AT25SL series, new families 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/SL 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 products feature up to 104MHz 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, 64KB block erase sizes provide flexibility for code management
- Dual /Quad and QPI I/O options for increased read throughput
- Ultra-fast, 104MHz operation
- 1.8V, and 3V Vcc operational ranges support a broad spectrum of applications
- 4Mbit to 128-Mbit devices
- JEDEC Manufacturing ID and Serial Flash Discoverable Parameters (SFDP)

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	SFDP	SPI Interface	Dual I/O	Quad I/O	QPI I/O
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		✓	✓	✓	
AT25SF641	64 Mbit	2.7-3.6V	104	4, 32, 64	✓	✓	✓	✓	✓
AT25SL321	32 Mbit	1.65-1.95V	104	4, 32, 64	✓	✓	✓	✓	✓
AT25SL641	64 Mbit	1.65-1.95V	104	4, 32, 64	✓	✓	✓	✓	✓
AT25SL128A	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**

## Features (AT25SF/SLxxx)

- Single 1.8V or 3V Operation
- Serial Peripheral Interface (SPI) Compatible
  - Supports SPI Modes 0 and 3
  - Supports Dual/ Quad/QPI Output Read
- 104MHz Maximum Operating Frequency
- Flexible, Optimized Erase Architecture for Code and Data Storage Applications
  - Uniform 4-Kbyte Block 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 Registers
- Flexible Programming
  - Byte/Page Program (1 to 256 Bytes)
- Fast Program and Erase times
  - 0.6ms Typical Page Program (256 Bytes) Time
  - 60ms Typical 4-Kbyte Block Erase Time
  - 200ms Typical 32-Kbyte Block Erase Time
  - 300ms Typical 64-Kbyte Block Erase Time
- JEDEC Standard Manufacturer and Device ID Read
- Serial Flash Discoverable Parameters (SFDP)
- Low Power Dissipation
  - 2µA Deep Power-Down (Typical)
  - 10uA 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, TSSOP, WLCSP, Die and Wafer Options

## Description

The Adesto® AT25SF/SL series is designed for use in a wide variety of high-volume consumer and Industrial applications. The erase block sizes of the products have been optimized to meet the needs of today's code storage applications. By optimizing the size of the erase blocks, the memory can be more efficiently used for Code Shadowing, and Over-The-Air (OTA) updates as well as partitioning parts of the array for low level data and parameter storage. The sector architecture also allows for simplified hardware and software controlled sector protection.

In addition, the AT25SF/SL devices support the industry-standard JEDEC device and manufacturer identity commands for in-system identification and operation as well as the widely accepted Serial Flash Discoverable Parameters (SFDP).

**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>.



3600 Peterson Way  
Santa Clara, CA 95054  
Phone: (+1) 408.400.0578  
Email: [contact@adestotech.com](mailto:contact@adestotech.com)  
Web: <http://www.adestotech.com>

