adesto®
TECHNOLOGIES

Code Storage Solutions
for the Connected World

"Fusion" Enhanced Serial Flash memory technology enabling next generation solutions for consumer, communication, mobile and industrial applications

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

To address these issues, Adesto introduces the AT25DN Fusion series; a new family of Enhanced Serial Flash memory products combining industry standard sector sizes and read/write commands with new features such as "ultra-deep power down" mode, and page erase capability.

Targeted for energy conscious consumer and industrial applications, the new memory can extend the battery-life and reduce energy consumption in many products being developed today that require code shadow and storage capabilities.

Fusion Serial Flash: Features and Benefits

- **Ultra -deep power down operates at <300 nA significantly reducing system standby power**

- **Page erase enables faster programming and updates**

- **Advanced security functions and embedded serial numbers provide effective anti-tamper and traceability options**

For more information on Adesto's ultra-low power code and data storage solutions, please visit: www.adestotech.com

AT25DN Fusion Serial Flash

Density	Vcc Range	Speed (MHz)	Ultra-Deep Power Down	Page Erase Capability	Enhanced Security Features
256-Kbit	2.3-3.6V	104	✓	✓	✓
512-Kbit	2.3-3.6V	104	✓	✓	✓
1-Mbit	2.3-3.6V	104	✓	✓	✓

Features

- Single 2.3 - 3.6V Supply
- Serial Peripheral Interface (SPI) Compatible
    - Supports SPI Modes 0 and 3
    - Supports Dual Output Read
- 104MHz Maximum Operating Frequency
- Flexible, Optimized Erase Architecture for Code and Data Storage Applications
    - Uniform 256-Byte Page Erase
    - Uniform 4-Kbyte Block Erase
    - Uniform 32-Kbyte Block Erase
    - Full Chip Erase
- Hardware Controlled Locking of Protected Sectors via WP Pin
- 128-Byte Programmable OTP Security Register
- Flexible Programming
    - Byte/Page Program (1 to 256 Bytes)
- Fast Program and Erase times
    - 1.5ms Typical Page Program Time (256 Bytes)
    - 50ms Typical 4-Kbyte Block Erase Time
    - 400ms Typical 32-Kbyte Block Erase Time
- Automatic Checking and Reporting of Erase and Program Failures
- Software Controlled Reset
- JEDEC Standard Manufacturer and Device ID Read
- Low Power Dissipation
    - 300nA 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
- Industry Standard Green (Pb/Halide-free/RoHS Compliant) Package Options
    - SOIC, DFN and TSSOP Packages

Description

The Adesto® AT25DN 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 new AT25DN Fusion Serial Flash family not only uses less power during standard operation but also offers designers the ability to operate over an extended Vcc range. The ultra-deep power down mode allows devices to function with a class leading standby current of 300 nanoamps, an order of magnitude improvement over standby modes available today. The devices also include a page erase feature for faster programming and updates whilst reducing CPU/MCU overheads when programming small packets of data, further reducing the energy footprint of the system.

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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3600 Peterson Way
Santa Clara, CA 94089
Phone: (+1) 408.400.0578
Email: contact@adestotech.com
Web: http://www.adestotech.com