(→) iNAND® AT EU752 UFS 4.1
Embedded Flash Drive

High-performance and high-reliability Automotive UFS 4.1 flash drive with BiCS8 218-layer 3D NAND technology for designed for next-generation automotive applications

The iNAND® AT EU752 UFS 4.1 embedded flash drive is engineered to meet the evolving demands of modern automotive platforms, including advanced driver-assistance systems (ADAS), in-vehicle infotainment (IVI), AI-driven in-vehicle assistants, and autonomous driving systems. As vehicles transform into intelligent, software-defined systems, the need for fast, reliable storage to support applications such as 3D mapping, sensor fusion, fast event data recording, and real-time decision-making in autonomous environments becomes more critical than ever.

Leveraging Sandisk's BiCS8 218-layer 3D NAND technology and UFS 4.1 standard interface, the iNAND® AT EU752 drive delivers sequential read speeds of up to 4,300 MB/s[1] and sequential write speeds of up to 4,100 MB/s[1] (1TB[2] models), offering more than double the performance of previous UFS 3.1 solutions. It is designed for harsh automotive environments, with an operating temperature range compliant with AEC-Q100 Grade 2 (-40°C to 105°C). The iNAND® AT EU752 UFS 4.1 drive integrates a suite of advanced features aimed at enhancing performance consistency, system awareness, and overall reliability. Features such as Host-Initiated Defragmentation (HID) and File-Based Optimization (FBO) help manage data fragmentation to facilitate sustained throughput, while HS-LSS support enables high-speed, low-latency boot processes critical for automotive applications. Health Monitoring provides early warnings as the device approaches end-of-life, and Sandisk's extended device report enhances diagnostics and predictive maintenance. The solution also includes Eye Monitoring, a UFS 4.1 feature used during development to evaluate high-speed signal integrity and help ensure robust physical layer performance.

The product is designed with robust functional safety and cybersecurity capabilities. Safety mechanisms and architecture elements are implemented based on best practices derived from ISO 26262 and ISO/SAE 21434. Hardware and software are evaluated accordingly, and software development follows structured processes aligned with ASPICE Level 3. Associated certifications are progressing in line with established plans.

Design

- 218-layer 3D NAND technology
- UFS 4.1 standard interface embedded flash drive for high-performance and compatibility.
- High capacity up to 1TB.[2]
- Automotive specific feature set, including advanced health status monitor, enhanced power failure protection, and fast boot.
- Unique features including 100% content preloading prior to IR soldering, SmartSLC™ technology, thermal throttling, and advanced device reporting for optimized operations.

Performance

- UFS 4.1 with SmartSLC™ technology and WriteBooster
- Up to 4,300 MB/s sequential read performance and up to 4,100 MB/s sequential write[1] performance (1TB[2] models).

Product Quality and Reliability

- Supported Standards (certification in progress): AEC-Q100/104, IATF-16949, ISO-26262 (ASIL-B) for safety related systems, ISO-21434 Cybersecurity and A-SPICE L3.
- Full Production Part Approval Process (PPAP) documentation available.
- Extended PCN and EOL support enabling long-term availability.
- Designed for high reliability with advanced defect management and low DPPM manufacturing flow.

Product Specifications

Capacities[2]	Package Size	Operating Temperature	Ordering Information
256GB	11.5x13x1.2mm	-40°C to 105°C	SDINHDL6-256G-ZA
512GB	11.5x13x1.2mm	-40°C to 105°C	SDINHDL6-512G-ZA
1TB	11.5x13x1.2mm	-40°C to 105°C	SDINHDL6-1T00-ZA

1. 1 MB/s = 1 million bytes per second. Based on internal testing; performance may vary depending upon host device, usage conditions, drive capacity, and other factors.
2. 1 GB = 1 billion bytes and 1TB = 1 trillion bytes. Actual user capacity may be less depending on operating environment.

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