Micron 4150AT SSD

New innovation from 30+ years of automotive leadership

Micron 4150AT SSD — driving software-defined vehicles

The 4150AT SSD is a new paradigm for storage that empowers customers to design more capable vehicle hardware and software architectures while simultaneously driving down total cost of ownership.

Today's ADAS, in-vehicle infotainment and an always-connected experience demand a centralized architecture, which in turn requires storage capable of providing multi-host connectivity, consistent performance, quality of service, and robust reliability and safety.

The 4150AT SSD simplifies the vehicular architecture through its industry-leading quad-port capability, hardware virtualization support with SR-IOV, and ground-up automotive safety capabilities. No other SSD on the market can provide a consistent, high-performance SSD to a multi-host architecture where multiple mission-critical functions are accessing storage simultaneously.

Existing SSD solutions are not optimized to meet the increased architectural efficiency of a centralized system and tend to get placed locally at the different vehicle functions. This leads to stranded capacity as the storage requirements of the single function are typically smaller than the storage offered by the SSD or other storage options.

The consolidation of the compute functions and Micron's 4150AT SSD storage capability reduces wiring and removes the need for an interface PCIe switching solution for the system or systems on chips (SoCs). This results in huge cost savings and improved system reliability. Most fundamentally, the ground-up automotive design of the 4150AT delivers a targeted functional safety ASIL B rating and ASPICE level 3 qualification, setting it far apart from the competition.

For over 30 years, Micron has been a leader in revolutionizing automotive memory and storage solutions. The innovation continues with the introduction of the 4150AT SSD, the world's first automotive-grade, quad-port, single root I/O virtualization (SR-IOV) for centralized architectures in software-defined vehicles.

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4150AT SSD benefits

- Quad-port SSD featuring NVMe 2.0 protocol interface and single root I/O virtualization
- Four independent SoCs share a single SSD with 64 private or shared storage resources via namespaces
- High performance operation for critical data storage and intense operating system/ application logging
- Datacenter architecture for intense random workloads from multi SoCs and multi-virtual machine
- Cost savings through smaller storage footprint without legacy storage devices or PCIe switching interface
- Functional safety ASIL B and ASPICE level 3 capable
- Datacenter architecture for multi-host workloads, guaranteeing consistent quality of service and performance

4150AT SSD specs

- 176-layer TLC NAND (supports TLC, SLC and high-endurance SLC namespaces)
- Up to quad-port operation and single-root I/O virtualization (SR-IOV)
- Datacenter-grade security features for industry-leading capability
- Robust self-test capabilities for in-vehicle detection issues

Family	Part	Capacity	Form factor	Random read/ write	Endurance (TBW)	Encryption	Op temp	MTTF	UBER	Vibration value
4150AT	MTFDKEL220TGK-1BM45A2YY	220GB	BGA	Up to 600K/ 100K IOPS	160TB	256-bit AES, Opal 2.02	-40° C to 115° C	>10 million hours	1E -17	NA
	MTFDKEL440TGK-1BM45A2YY	440GB			320TB					
	MTFDKEL900TGK-1BM45A2YY	900GB			640TB					
	MTFDKER1T8TGK-1BM45A2YY	1.8TB			1280TB					

Learn more

Visit Micron's automotive 4150AT SSD product page for more details on the Micron 4150AT SSD and how it can enhance your next automotive solution. Contact your Micron sales representative with questions or for samples and support.

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