SSDs for automotive and industrial markets



Thrive in extreme conditions using solid-state storage

Boost the performance and reliability of leading-edge automotive electronics systems and industrial-grade applications with Micron® 2100AI/AT and 4150AT SSDs. Combining the benefits of a low-latency PCIe®/NVMe™ interface with the density of triple-level cell (TLC) 3D NAND technology, the 2100AI/AT and 4150AT SSDs are ideal for dynamic data, with the option to switch to single-level cell (SLC) mode, and high-endurance SLC mode[2], for applications with a lot of static data. Improve performance, reliability and durability using advanced NVMe features, like mixed namespace configurations.

Extending our proven client SSD portfolio into the automotive and industrial domains, Micron's 2100AI/AT and 4150AT SSDs also provide:

- **Extended temperature ranges:** Withstand extreme environments via industrial and automotive temperature ranges and adaptive thermal throttling plus autonomous power-state transitions.
  - 2100AT SSD (automotive): 40°C to 105°C
  - 2100AI SSD (industrial): 40°C to 95°C
  - 4150AT SSD (automotive): 40°C to 115°C
- **Robust data security:** Help protect data with leading, on-the-fly hardware-based encryption, secure firmware downloads, and cryptographic erase. Guard user data with parity protection on internal buffers and checksum generation and checking.
- **Power-loss protection and transitions:** Protect data at rest and help ensure data integrity in unexpected power-loss events with an integrated microcontroller and hold-up capacitors.
- **Responsive performance:** Realize significantly faster boot, file and application load times compared to traditional hard drives.
- **Low power consumption:** Consume considerably less power with flash compared to mechanical disk storage in typical hard drives.

Micron's IQ and 30+ years in automotive technology

When choosing your automotive or industrial-grade memory, we know that simple product lifecycle management, application specific optimization, high reliability, and product longevity are key. Micron's Industrial Quotient (IQ) is a mindset focused on helping you make intelligent choices for your industrial and IoT designs.

Micron's innovation and obsession with quality are driving the pace of change in the automotive industry. With today's connected vehicles requiring one billion lines of code[1] it's essential to have the right automotive-grade memory solutions. Micron's trillions of miles on the road and more than 30-year commitment to the industry can help give you a head-start in tackling these accelerating demands.

Bring your intelligent edge to life with Micron's groundbreaking memory and storage solutions and our unique expertise in industrial and automotive applications.

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Which applications are the best fit?

- **Automotive:** In-vehicle infotainment (IVI), navigation and driver information, adaptive driver assistance systems (ADAS), black box applications
- **Industrial:** Factory automation, robotics, transportation, medical, defense, retail, industrial networking, video security systems, centralized storage[2]



Family	Part	Density	Form factor	Sequential read/write	Endurance (TBW)	Encryption	Operating temperature	Mean time to failure (MTTF)	Uncorrectable bit error rate (UBER)	Vibration value
2100AI	MTFDHBL064TDP-1AT12AIYY	64GB	BGA	Up to 550/200 MB/s	30TB	256-bit AES, Opal 2.0	Tcase = -40°C to 95°C	3 million hours	1E-16	N/A
	MTFDHBK064TDP-1AT12AIYY		M.2 2230							20G @ 7-2,000Hz
	MTFDHBL128TDP-1AT12AIYY	128GB	BGA	Up to 1,100/420 MB/s	60TB					N/A
	MTFDHBK128TDP-1AT12AIYY		M.2 2230							20G @ 7-2,000Hz
	MTFDHBL256TDP-1AT12AIYY	256GB	BGA	Up to 2,000/850 MB/s	120TB					N/A
	MTFDHBK256TDP-1AT12AIYY		M.2 2230							20G @ 7-2,000Hz
	MTFDHBL512TDP-1AT12AIYY	512GB	BGA	Up to 2,000/1,500 MB/s	240TB					N/A
	MTFDHBK512TDP-1AT12AIYY		M.2 2230							20G @ 7-2,000Hz
	MTFDHBM1T0TDP-1AT12AIYY	1TB	BGA	Up to 2,000/1,750 MB/s	480TB					N/A
	MTFDHBK1T0TDP-1AT12AIYY		M.2 2230							20G @ 7-2,000Hz
2100AT	MTFDHBL064TDQ-1AT12ATYY	64GB	BGA	Up to 550/200 MB/s	30TB	256-bit AES, Opal 2.0	Tcase = -40°C to 105°C	3 million hours	1E-16	N/A
	MTFDHBL128TDQ-1AT12ATYY	128GB	BGA	Up to 1,100/420 MB/s	60TB					N/A
	MTFDHBL256TDQ-1AT12ATYY	256GB	BGA	Up to 2,000/850 MB/s	120TB					N/A
	MTFDHBL512TDQ-1AT12ATYY	512GB	BGA	Up to 2,000/1,550 MB/s	240TB					N/A
	MTFDHBM1T0TDQ-1AT12ATYY	1TB	BGA	Up to 2,000/1,750 MB/s	480TB					N/A
	MTFDHBK1T0TDQ-1AT12ATYY		M.2 2230							20G @ 7-2,000Hz
4150AT	MTFDKEL220TGK-1BM45A2YY	220GB	BGA	Up to 600K/100K IOPS	160TB	256-bit AES, Opal 2.02	Tcase = -40°C to 115°C	>10 million hours	1E-17	N/A
	MTFDKEL440TGK-1BM45A2YY	440GB			320TB					
	MTFDKEL900TGK-1BM45A2YY	900GB			640TB					
	MTFDKER1T8TGK-1BM45A2YY	1.8TB			1,280TB					

Micron Storage Executive

Download Micron's free software for a powerful tool to help you manage your Micron SSDs. With Storage Executive, you can monitor your drive's health, sanitize (erase) your drive, check your drive status, generate reports and perform firmware updates.

Learn more

Visit Micron's SSDs for automotive and industrial page for more details on the 2100AI/AT and 4150AT SSDs and how they can enhance your next automotive or industrial solution. Contact your Micron sales representative with questions or for samples and support.

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1. https://www.autoexpress.co.uk/car-news/106617/driverless-cars-will-require-one-billion-lines-of-code-says-jlr
2. Applies to 4150AT only