

# TDS202 mSATA SSD

BIWIN TDS202 mSATA SSD uses a high-performance SATA controller, integrating next-generation 4K LDPC error correction, RAID, and SRAM ECC to ensure data integrity and reliability. Tailored for industrial applications and embedded systems, this series is optimized for environments that demand consistent, high-quality data storage and transfer.

Compliant with the SATA III interface standard, the TDS202 SSD features a mSATA form factor and delivers sequential read and write speeds up to 560 MB/s and 510 MB/s, respectively. With operational temperatures ranging from -20°C to +70°C, it guarantees stable performance in diverse environmental conditions, making it well-suited for mission-critical applications.

The TDS202 SSD offers comprehensive features, including end-to-end data protection, data inspection, and data erasure, ensuring the integrity of stored information. S.M.A.R.T. monitoring provides real-time visibility into the health of the drive, enabling proactive maintenance through continuous monitoring, diagnostics, and reporting.



## Key Features

### High-Speed and Stable Performance in Industrial Environments

The BIWIN TDS202 mSATA SSD uses high-quality components, ensuring stable performance in environments ranging from -20°C to +70°C. With sequential read and write speeds up to 560MB/s and 510 MB/s, it provides high-speed, stable data access capabilities for standard industrial applications.

### Multiple Capacities to Meet Diverse Storage Needs

Featuring 3D TLC NAND flash, the BIWIN TDS202 SSD is available in capacities ranging from 32 GB to 2 TB, meeting the storage demands of various industries for more efficient and flexible data management.

### Advanced Technologies to Extend Product Lifespan

With features including dynamic/static wear leveling, bad block management, TRIM, and garbage collection, the BIWIN TDS202 SSD ensures optimal utilization of NAND flash, significantly enhancing the product's durability and lifespan.

### Rigorous Industrial Testing for High Reliability

Built to industrial-grade standards, the BIWIN TDS202 SSD undergoes extensive testing, including high and low-temperature performance, functionality tests, and industrial platform compatibility, with an MTBF (Mean Time Between Failures) exceeding 3 million hours, ensuring exceptional reliability.

### Flexible Customization to Meet Specialized Requirements

The BIWIN TDS202 SSD offers custom services such as underfill/sidefill, metal/graphene heatsinks, and other tailored options to meet specific customer requirements to enhance reliability and durability in specialized environments.

## Technologies

S.M.A.R.T.

Firmware Update

End-to-End Data  
Protection

Data Erasure

Garbage Collection

Dynamic/Static  
Wear Leveling

TRIM Command

Bad Block Management

Intelligent  
Thermal Throttling

## Applications



Industrial  
Automation



Financial and  
Retail Device



Self-Service  
Terminals



Network  
Communications



Smart  
Healthcare

## Specifications

<b>Model Name</b>	TDS202
<b>Interface</b>	SATA III
<b>Form Factor</b>	mSATA
<b>Flash Type</b>	3D TLC
<b>Firmware</b>	TLC Direct Write
<b>DRAM Cache</b>	DRAM-less
<b>Capacity</b>	32 GB / 64 GB / 128 GB / 256 GB / 512 GB / 1 TB / 2TB
<b>Sequential Read (Up to)</b>	560 MB/s
<b>Sequential Write (Up to)</b>	510 MB/s
<b>Random Read 4K (Up to)</b>	90K IOPS
<b>Random Write 4K (Up to)</b>	70K IOPS
<b>Read Power Consumption (Max.)</b>	0.86 W
<b>Write Power Consumption (Max.)</b>	1.29 W
<b>Idle Power Consumption (Max.)</b>	0.25 W
<b>Dimensions</b>	50.80 x 29.85 x 4.65 mm
<b>Operating Temperature</b>	-20°C to + 70°C
<b>Storage Temperature</b>	-40°C to + 85°C
<b>Endurance</b>	3000 P/E cycles
<b>MTBF</b>	>3,000,000 hours
<b>Certifications</b>	CE, FCC, RoHS, HF, REACH
<b>TBW</b>	2400 TBW
<b>Warranty</b>	3-Year Limited

## Order Information

Capacity	Part Number	Power Loss Protection
<b>32 GB</b>	TD59B03220S0T	Firmware-Based
<b>64 GB</b>	TD59B06420S0T	Firmware-Based
<b>128 GB</b>	TD59B12820S1T	Firmware-Based
<b>256 GB</b>	TD59B25620S1T	Firmware-Based

1. Tested by BIWIN labs. Actual performance may vary due to systems, devices, or environment.
2. Maintenance and future updates are required throughout the product lifecycle. Specifications are subject to change without notice.
3. The pictures are for illustration only. Actual products may vary due to product enhancements or changes.
4. Not all products are sold in all regions of the world.
5. As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on the operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and gigabyte per second (GB/s) = one billion bytes per second.
6. MTBF = Mean Time Between Failures based on internal testing using the Telcordia stress testing standard.
7. Please visit [www.biwin technology.com](http://www.biwin technology.com) for warranty details in your region.
8. For more information, please contact [sales@biwintech.com](mailto:sales@biwintech.com).

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