

Mini SSD

The BIWIN Mini SSD is a high-performance, ultra-mini storage solution designed specifically for edge AI devices and mobile computing scenarios. Leveraging a PCIe 4.0 x2 interface and NVMe 1.4 protocol, BIWIN Mini SSD achieves impressive read speeds up to 3700 MB/s and write speeds up to 3400 MB/s. With capacities ranging from 512 GB to 2 TB, the Mini SSD meets the rigorous demands of mobile devices, edge computing, and other data-intensive applications.

The Mini SSD uses advanced packaging, using LGA (Land Grid Array) packaging technology to integrate the controller and flash memory modules into a highly compact form. Measuring just 15.0 mm × 17.0 mm × 1.4 mm—approximately the size of a microSD card (about half the size of a coin), but with SSD speed and performance. Built with state-of-the-art integrated packaging technology, the Mini SSD offers excellent resistance to shocks and impacts, while its IP68-rated dust and water resistance provides an additional layer of reliability in challenging environments.

The new form factor offers a new flexibility for engineering design-in. BIWIN Mini SSD features a modular slot design, enabling plug-and-play functionality and wide compatibility with diverse devices, including laptops, tablets, smartphones, handheld gaming consoles, cameras, NAS systems, smart albums, and portable SSDs.

Widely compatible with various devices, BIWIN Mini SSD is the ideal storage companion for content creators, mobile office users, and tech enthusiasts in the smart era, enabling seamless sharing and efficient collaboration across devices.



Key Features

Powerful PCIe 4 Performance, Ultra-Mini Form Factor

Using advanced LGA packaging technology, the BIWIN Mini SSD measures just 15.00×17.00×1.40 mm in dimensions, with a unique form factor that saves internal space in devices such as ultrabooks and Mini PCs. Its modular slot design enables plug-and-play functionality for easy storage expansion and replacement, offering convenience and flexibility for users.

More Rapid Data Handling for Professional Demands

Leveraging a PCIe 4x2 interface and NVMe 1.4 protocol, BIWIN Mini SSD delivers sequential read speeds up to 3700 MB/s and write speeds up to 3400 MB/s. Whether running AI training tasks, editing 4K video, or executing large applications, it provides excellent performance, minimizing latency and stuttering for a smoother experience.

Stable, Reliable, and Comprehensive Protection

The Mini SSD features exceptional physical durability, with IP68-rated dustproof and waterproof protection, and can withstand 3-meter drops. Its integrated hardware and firmware design ensures data integrity and stability, even in challenging conditions such as vibrations and humidity, offering users reliable, all-around protection and peace of mind.

Technologies

Dynamic SLC Cache

Global Wear Leveling

TRIM Command

Garbage Collection

Intelligent Thermal Throttling

Intelligent Low-Power Management

HMB

S.M.A.R.T.

Applications

 Ultrabook

 Handheld Gaming Console

 NAS

 Smart Photo Album

 Mini PC

Specifications

Model Name	Mini SSD
Interface	PCIe Gen4x2, NVMe 1.4
Flash Type	3D TLC
DRAM Cache	DRAM-less
Capacity	512 GB / 1 TB / 2 TB
Sequential Read (Up to)	3700 MB/s
Sequential Write (Up to)	3400 MB/s
Random Read 4K (Up to)	550K IOPS
Random Write 4K (Up to)	650K IOPS
Read Power Consumption (Max.)	2.3 W
Write Power Consumption (Max.)	2.3 W
Idle Power Consumption (Max.)	60 mW
Low Power Consumption (PS4)	6mW
Dimensions	15.00 x 17.00 x 1.40 mm (Max.)
Operating Temperature	0°C to +70°C
Storage Temperature	-40°C to +85°C
MTBF	1,500,000 hours
Certifications	RoHS
TBW (Up to)	1500 TBW
Warranty	3-Year Limited

Order Information

Capacity	Part Number
512 GB	BL100512G-RCX
1 TB	BL10001TB-RCX
2 TB	BL10002TB-RCX

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.biwintechnology.com for warranty details in your region.
8. For more information, please contact sales@biwintech.com.

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