Biwin
Storage Technology

AP653 SSD

BIWIN AP653 SSD delivers fast, reliable performance with read speeds up to 3500 MB/s and write speeds up to 3000 MB/s, powered by an advanced controller and 3D TLC NAND. Enhanced by hardware and firmware optimizations, this SSD provides exceptional performance and energy efficiency. The M.2 2280 form factor offers easy integration with various systems.

With capacities from 256 GB to 2 TB, the AP653 SSD provides a high-performance storage solution for data-driven applications.

Key Features

Optimized Data Transfer Efficiency

The BIWIN AP653 offers read speeds up to 3500 MB/s and write speeds up to 3000 MB/s with a PCIe Gen3x4 interface and NVMe 1.4 protocol. Designed for critical operations, it ensures faster data transfers and optimizes workflows, perfect for environments that rely on fast and efficient data handling.

Intelligent Thermal Management

Excessive heat can negatively impact SSD components, compromise performance, and reduce lifespan. The BIWIN AP653 is designed with a single-sided layout and a smart temperature regulation algorithm to keep thermals in check and reduce the risk of overheating. This helps prevent system crashes and maintains stable performance during demanding tasks.

Low Power Consumption

Equipped with an intelligent power management unit and NVMe power management technology, the BIWIN AP653 efficiently manages energy usage. It minimizes power consumption in both active and idle states to significantly extend runtime for devices including PCs, industrial equipment, and network storage systems.

Innovative Technology for Reliability

The BIWIN AP653 integrates advanced features like dynamic/static wear leveling, TRIM command, S.M.A.R.T., and intelligent thermal throttling. These technologies ensure the drive delivers consistent performance and extended lifespan in high-demand environments. With efficient garbage collection and built-in data protection mechanisms, this SSD offers data integrity and operational stability.

Built for Reliability

The BIWIN AP653 uses premium flash memory chips to deliver high performance and long-term reliability. It undergoes extensive electrical, application, and compatibility testing to ensure superior performance. Backed by a 3-year warranty and technical support, this SSD provides reliable, worry-free storage for your devices.

Technologies

Modern Standby	ATA Encryption	End-to-End Data Protection	S.M.A.R.T.	Garbage Collection
TRIM Command	Dynamic/Static Wear Leveling	In-drive RAID	Bad Block Management	Read Scrub
SLC Cache Acceleration	Intelligent Thermal Throttling	ESD Protection	Read Disturbance	Firmware Update

Applications

Desktop | Laptop | Tablet | All-in-One PC | Thin Client | Mini PC

Specifications

Model Name	AP653
Interface	PCIe Gen3x4, NVMe 1.4
Form Factor	M.2 2280
Flash Type	3D TLC
Firmware	SLC Cache
DRAM Cache	DRAM-less
Capacity	256 GB / 512 GB / 1 TB / 2 TB
Sequential Read (Up to)	3500 MB/s
Sequential Write (Up to)	3000 MB/s
Random Read 4K (Up to)	450K IOPS
Random Write 4K (Up to)	350K IOPS
Read Power Consumption (Max.)	4.2 W
Write Power Consumption (Max.)	3.8 W
Idle Power Consumption (Max.)	50 mW
Dimensions	22±0.15 x 80±0.15 x 2.23 (Max) mm
Operating Temperature	0°C to +70°C
Storage Temperature	-40°C to +85°C
MTBF	>1,500,000 hours
Certifications	CE, FCC, RoHS, HF, REACH
TBW (Up to)	1500 TBW
Warranty	3-Year Limited

Order Information

Capacity	Part Number
256 GB	CE480D58800-256
512 GB	CE480D58800-512
1 TB	CE480D58800-1TB
2 TB	CE480D58800-2TB

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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