AP425 SSD

The BIWIN AP425 SSD is built with a high-performance SSD controller and advanced 3D TLC NAND flash in a space-saving M.2 2230 form factor. Leveraging the PCIe Gen3x4 interface and NVMe 1.4 protocol, the AP425 delivers rapid data access and power efficiency through comprehensive hardware and firmware optimizations. With sequential read speeds up to 3200 MB/s and write speeds up to 2600 MB/s, the AP425 significantly reduces system boot time, application loading, and file transfer delays. Available in 256 GB and 512 GB, it provides faster responsiveness for small form factor desktops, thin and light laptops, handheld gaming devices, and other compact devices with limited internal space that require a physically shorter and thinner drive.

Key Features

High-Speed Performance for Smooth Computing

Powered by the PCIe Gen3x4 interface, the BIWIN AP425 delivers fast and stable data throughput, enhancing overall system responsiveness and enabling smoother multitasking across performance-demanding applications.

Optimized Thermal Management for Stable Operation

To maintain stable performance under demanding workloads, the AP425 features a single-sided PCB design combined with intelligent thermal management. This design helps control operating temperatures effectively, reducing the risk of overheating, performance drops, or system instability during prolonged use.

Ultra-Low Power Consumption

The AP425 integrates an advanced power management unit and NVMe power management technology to optimize energy usage across different power states. With precise firmware-level control, it achieves ultra-low power consumption in both active and idle modes, helping extend battery life and improve overall power efficiency.

Advanced Data Protection and Reliability

Equipped with a comprehensive set of SSD technologies, including wear leveling, TRIM command, S.M.A.R.T., thermal throttling, and garbage collection, the AP425 delivers long-term reliability, consistent performance, and robust data protection.

Proven Quality and Long-Term Support

Built with selected NAND flash components, every AP425 SSD undergoes strict testing for performance, compatibility, and reliability. The product is backed by a 3-year warranty and professional technical support, offering reliable performance and peace of mind throughout its service life.

Technologies

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

Applications

SFF Desktop	Laptop	Tablet	All-in-One PC	Thin Client	Mini PC	Compact HTPC

Specifications

Model Name	AP425
Interface	PCIe Gen3x4, NVMe 1.4
Form Factor	M.2 2230
Flash Type	3D TLC
Firmware	SLC Cache
DRAM Cache	DRAM-less
Capacity	256 GB / 512 GB
Sequential Read (Up to)	3200 MB/s
Sequential Write (Up to)	2600 MB/s
Random Read 4K (Up to)	300K IOPS
Random Write 4K (Up to)	250K IOPS
Read Power Consumption (Max.)	3.0 W
Write Power Consumption (Max.)	3.5 W
Idle Power Consumption (Max.)	50 mW
Dimensions	22.00±0.15 × 30.00±0.15 × 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, RoHS
TBW (Up to)	375 TBW
Warranty	3-Year Limited

*The tolerances (±0.15, plus or minus 0.15 mm) indicate precision manufacturing requirements for proper fit and function within a compatible slot or enclosure.

Order Information

Capacity	Part Number
256 GB	CE430T5D100-256
512 GB	CE430T5D100-512

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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