# KIOXIA BG6 Series (M.2)
Client NVMe™ SSD

KIOXIA BG6 Series is a line-up of compact form factor NVMe™ SSDs with capacities up to 2,048 GB, and leverages a PCIe® 4.0, NVMe™ 1.4c specification compliant interface and KIOXIA BiCS FLASH™ generation 6 TLC flash memory*. With higher bandwidth, improved flash management and Host Memory Buffer (HMB) technology, the BG6 Series SSDs deliver very high read performance for compact form factor SSDs of up to 6,000 MB/s (sequential read) and up to 900K IOPS (random read).

KIOXIA BG6 Series SSDs are available in capacities of 256 GB, 512 GB, 1,024 GB and 2,048 GB in M.2 Type 2230 and Type 2280 module form factors, making them suitable for thin and light system designs, such as ultra-thin PCs. The BG6 Series offers a Self-Encrypting Drive (SED) model option, supporting TCG Opal Version 2.01.

* KIOXIA BiCS FLASH™ generation 5 TLC flash memory for 256 GB and 512 GB capacity BG6 SSDs

M.2 2230
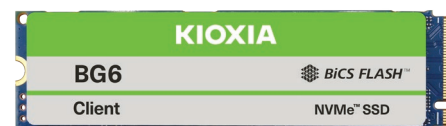
M.2 2280

Product image may represent a design model.

Key Features

- KIOXIA BiCS FLASH™ generation 6 TLC flash memory (KIOXIA BiCS FLASH™ generation 5 TLC flash memory for 256 GB and 512 GB)
- PCIe® 4.0, NVMe™ 1.4c specification compliant
- Capacities up to 2,048 GB
- M.2 Type 2230 and Type 2280 single-sided form factors
- TCG Opal 2.01 SED option

Key Applications

- Ultra-mobile PCs
- 2-in-1 notebook PCs

Specifications

Base Model Number	KBG60ZNS 2T04	KBG60ZNS 1T02	KBG60ZNS 512G	KBG60ZNS 256G	KBG60ZNV 2T04	KBG60ZNV 1T02	KBG60ZNV 512G	KBG60ZNV 256G
SED Model Number	KBG6AZNS 2T04	KBG6AZNS 1T02	KBG6AZNS 512G	KBG6AZNS 256G	KBG6AZNV 2T04	KBG6AZNV 1T02	KBG6AZNV 512G	KBG6AZNV 256G
Capacity	2,048 GB	1,024 GB	512 GB	256 GB	2,048 GB	1,024 GB	512 GB	256 GB
Basic Specifications								
Form Factor	M.2 2230-S3 Single-sided	M.2 2230-S2 Single-sided			M.2 2280-S3 Single-sided	M.2 2280-S2 Single-sided		
Interface	PCIe® 4.0, NVMe™ 1.4c							
Maximum Interface Speed	64 GT/s (PCIe® Gen4 x4)							
Flash Memory Type	BiCS FLASH™ TLC							

Specifications (Continued)

Capacity	2,048 GB	1,024 GB	512 GB	256 GB	2,048 GB	1,024 GB	512 GB	256 GB
Form Factor	M.2 2230-S3 Single-sided	M.2 2230-S2 Single-sided			M.2 2280-S3 Single-sided	M.2 2280-S2 Single-sided		
Performance (Up to)								
Sequential Read	6,000 MB/s		4,800 MB/s	4,400 MB/s	6,000 MB/s		4,800 MB/s	4,400 MB/s
Sequential Write	5,300 MB/s	5,000 MB/s	4,000 MB/s	3,000 MB/s	5,300 MB/s	5,000 MB/s	4,000 MB/s	3,000 MB/s
Random Read	900K IOPS	650K IOPS		350K IOPS	900K IOPS	650K IOPS		350K IOPS
Random Write	900K IOPS		850K IOPS	700K IOPS	900K IOPS		850K IOPS	700K IOPS
Power Requirements								
Supply Voltage	3.3 V ± 5 %							
Power Consumption (Active)	4.4 W typ.	4.3 W typ.	4.7 W typ.	4.3 W typ.	4.4 W typ.	4.3 W typ.	4.7 W typ.	4.3 W typ.
Power Consumption (L1.2 mode)	3.0 mW typ.							
Reliability								
MTTF	1,500,000 hours							
TBW	1,200	600	300	150	1,200	600	300	150
Dimensions								
Thickness	2.38 mm Max	2.23 mm Max			2.38 mm Max	2.23 mm Max		
Width	22 mm ± 0.15 mm							
Length	30 mm ± 0.15 mm				80 mm ± 0.15 mm			
Weight	3.0 g Max	2.9 g Max	2.8 g Max	2.7 g Max	6.0 g Max	5.9 g Max	5.8 g Max	5.7 g Max
Environmental								
Temperature (Operating)	0 ℃ to 95 ℃ (Controller Temperature)							
Temperature (Operating)	0 ℃ to 85 ℃ (Other Components Temperature)							
Temperature (Non-operating)	-40 ℃ to 85 ℃							
Humidity (Operating)	0 % to 90 % R.H.							
Vibration (Operating)	196 m/s² { 20 Grms } (20 to 2,000 Hz)							
Shock (Operating)	14.7 km/s² { 1,500 G } (0.5 ms)							

Availability of the SED model line-up may vary by region.

Definition of capacity: KIOXIA Corporation defines a megabyte (MB) as 1,000,000 bytes, a gigabyte (GB) as 1,000,000,000 bytes and a terabyte (TB) as 1,000,000,000,000 bytes. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1 GB = 2^30 = 1,073,741,824 bytes and therefore shows less storage capacity. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

IOPS: Input Output Per Second (or the number of I/O operations per second).

TBW: Terabytes Written. The number of terabytes that may be written to the SSD for the specified lifetime.

Read and write speed, tested on the state of "Host Memory Buffer (HMB) = On", may vary depending on the host device, read and write conditions, and file size.

Read and write speed may vary depending on various factors such as host devices, software (drivers, OS etc.), and read/write conditions.

MTTF (Mean Time to Failure) is not a guarantee or estimate of product life; it is a statistical value related to mean failure rates for a large number of products which may not accurately reflect actual operation. Actual operating life of the product may be different from the MTTF.

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