

## KIOXIA BG7 Series (M.2) Client NVMe™ SSD

KIOXIA BG7 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™ 2.0d specification compliant interface and KIOXIA BiCS FLASH™ generation 8 TLC flash memory\*. With higher bandwidth, improved flash management and Host Memory Buffer (HMB) technology, the BG7 Series SSDs deliver very high read performance for compact form factor SSDs of up to 7,000 MB/s (sequential read) and up to 1,000K IOPS (random read).

KIOXIA BG7 Series SSDs are available in capacities of 256 GB, 512 GB, 1,024 GB and 2,048 GB in M.2 Type 2230, Type 2242 and Type 2280 module form factors, making them suitable for thin and light system designs, such as ultra-thin PCs and AI PCs. The BG7 Series offers a Self-Encrypting Drive (SED) model option, supporting TCG Opal Version 2.01.

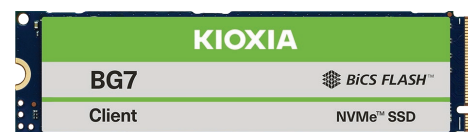
\* KIOXIA BiCS FLASH™ generation 6 TLC flash memory for 256 GB capacity BG7 SSDs



M.2 2230



M.2 2242



M.2 2280

Product image may represent a design model.

### Key Features

- KIOXIA BiCS FLASH™ generation 8 TLC flash memory (KIOXIA BiCS FLASH™ generation 6 TLC flash memory for 256 GB)
- PCIe® 4.0, NVMe™ 2.0d specification compliant
- Capacities up to 2,048 GB
- M.2 Type 2230, Type 2242 and Type 2280 single-sided form factors
- TCG Opal 2.01 SED option

### Key Applications

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

### Specifications

Base Model Number	Type 2230	KBG70ZNS2T04	KBG70ZNS1T02	KBG70ZNS512G	KBG70ZNS256G
	Type 2242	KBG70ZNT2T04	KBG70ZNT1T02	KBG70ZNT512G	KBG70ZNT256G
	Type 2280	KBG70ZNV2T04	KBG70ZNV1T02	KBG70ZNV512G	KBG70ZNV256G
SED Model Number	Type 2230	KBG7BZNS2T04	KBG7BZNS1T02	KBG7BZNS512G	KBG7BZNS256G
	Type 2242	KBG7BZNT2T04	KBG7BZNT1T02	KBG7BZNT512G	KBG7BZNT256G
	Type 2280	KBG7BZNV2T04	KBG7BZNV1T02	KBG7BZNV512G	KBG7BZNV256G
Capacity		2,048 GB	1,024 GB	512 GB	256 GB
<b>Basic Specifications</b>					
Form Factor	M.2 2230-S3 Single-sided M.2 2242-S3 Single-sided M.2 2280-S3 Single-sided		M.2 2230-S2 Single-sided M.2 2242-S2 Single-sided M.2 2280-S2 Single-sided		
Interface	PCIe® 4.0, NVMe™ 2.0d				
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
<b>Performance (Up to)</b>				
Sequential Read	7,000 MB/s		6,400 MB/s	
Sequential Write	6,000 MB/s		5,000 MB/s	4,000 MB/s
Random Read	1,000K IOPS	850K IOPS	550K IOPS	500K IOPS
Random Write	1,000K IOPS	920K IOPS	850K IOPS	
<b>Power Requirements</b>				
Supply Voltage	3.3 V $\pm$ 5 %			
Power Consumption (Active)	4.5 W typ.			
Power Consumption (L1.2 mode)	3.0 mW typ.			
<b>Reliability</b>				
MTTF	2,000,000 hours			
TBW	1,200	600	300	150
<b>Dimensions</b>				
Thickness	2.38 mm Max	2.23 mm Max		
Width	22 mm $\pm$ 0.15 mm			
Length	Type 2230 30mm $\pm$ 0.15 mm Type 2242 42 mm $\pm$ 0.15 mm Type 2280 80mm $\pm$ 0.15 mm			
Weight	Type 2230 3.2 g Max Type 2242 3.8 g Max Type 2280 6.3 g Max			
<b>Environmental</b>				
Temperature (Operating)	0 °C to 85 °C			
Temperature (Non-operating)	-40 °C to 85 °C			
Humidity (Operating)	0 % to 90 % R.H.			
Vibration (Operating)	196 m/s <sup>2</sup> { 20 Grms } ( 20 to 2,000 Hz )			
Shock (Operating)	14.7 km/s <sup>2</sup> { 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<sup>30</sup> = 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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