

# KIOXIA FL6 Series

(KFL61HUL/KFL6XHUL/KFL6DHUL/KFL6FHUL)

## Enterprise SCM SSD

The KIOXIA FL6 Series is a dual-port PCIe® 4.0 / NVMe™ SSD providing excellent system performance with low latency for applications where response time is critical. It is ideal for enterprise and hyperscale data center applications, such as server caching, write logging, and read/write caching in tiered storage environments.

FL6 Series features KIOXIA's XL-FLASH storage class memory (SCM) which bridges the performance gap between DRAM and NAND flash memory. It offers 60 DDPD (Drive Writes Per Day) endurance and performance up to 1.5 M random read IOPS, 400 K random write IOPS, with 29 µs read latency and 8 µs write latency.



Product image may differ from the actual product.

## Key Features

- PCIe® 4.0, NVMe™ 1.4 specification compliant
- 60 DDPD endurance and 800 GB to 3,200 GB capacities
- Form factor: 2.5-inch, 15mm Z-height
- KIOXIA XL-FLASH is 96-layer BiCS FLASH™ 3D flash memory and 1-bit/cell SLC technology for high-speed reads and writes
- SFF-TA-1001 conformant (U.3), works with Tri-mode controllers and backplane
- Dual-port design for high availability applications
- 6th generation flash die failure protection
- Power loss protection (PLP) and end-to-end data protection
- Suited for 24x7 enterprise workloads
- Data security options: SIE, SED (TCG Opal/Ruby), FIPS 140-2<sup>[1, 2, 3, 4, 5]</sup>

## Key Applications

- Server caching and write logging for enterprise and large data centers
- Read/write caching in tiered storage

## Specifications

Model Number	KFL61HUL3T20	KFL61HUL1T60	KFL61HUL800G
SIE Model Number	KFL6XHUL3T20	KFL6XHUL1T60	KFL6XHUL800G
SED Model Number	KFL6DHUL3T20	KFL6DHUL1T60	KFL6DHUL800G
FIPS Model Number	KFL6FHUL3T20	KFL6FHUL1T60	KFL6FHUL800G
Capacity	3,200 GB	1,600 GB	800 GB
<b>Basic Specifications</b>			
Interface	PCIe® 4.0, NVMe™ 1.4		
Interface Speed	64 GT/s (PCIe® 4 single x4, dual x2)		
Flash Memory Type	XL-FLASH		

## Specifications (Continued)

Capacity	3,200 GB	1,600 GB	800 GB
<b>Performance (Up to)</b>			
Sustained 128 KiB Sequential Read	6,200 MB/s		
Sustained 128 KiB Sequential Write	6,200 MB/s		
Sustained 4 KiB Random Read	1,500K IOPS	1,480K IOPS	
Sustained 4 KiB Random Write	400K IOPS	380K IOPS	360K IOPS
<b>Power Requirements</b>			
Supply Voltage	12 V ± 10 %, 3.3 Vaux ± 15 %		
Power Consumption (Active)	19 W Typ.	16 W Typ.	14 W Typ.
Power Consumption (Ready)	5 W Typ.		
<b>Reliability</b>			
MTTF	2,500,000 hours		
Warranty	5 years		
DWPD	60		
<b>Dimensions</b>			
Height	15.0 mm + 0, - 0.5 mm		
Width	69.85 ± 0.25 mm		
Length	100.45 ± 0 mm		
Weight	130 g Max		
<b>Environmental</b>			
Temperature (Operating)	0 °C to 70 °C		
Temperature (Non-operating)	-40 °C to 80 °C		
Humidity (Operating)	5 % to 95 % R.H. (No condensation)		
Vibration (Operating)	21.27 m/s <sup>2</sup> { 2.17 Grms } ( 5 to 800 Hz )		
Shock (Operating)	9,800 m/s <sup>2</sup> { 1,000 G } ( 0.5 ms duration )		

Product image may represent a design model.

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 1GB = 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.

GT/s: Giga Transfers per second.

A kibibyte (KiB) means 2<sup>10</sup>, or 1,024 bytes.

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.

DWPD: Drive Writes Per Day. One full drive write per day means the drive can be written and re-written to full capacity once a day every day for the specified lifetime. Actual results may vary due to system configuration, usage and other factors.

Read and write performances may vary depending on the host device, read and write conditions, and file size.

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

[1] The Sanitize Instant Erase (SIE), Self-Encrypting Drive (SED), FIPS (Federal Information Processing Standards) optional models are available.

[2] SIE option supports Crypto Erase, which is a standardized feature defined by NVM Express Inc.

[3] SED supports TCG Opal and Ruby SSCs. It has a few unsupported TCG Opal features. For more details, please make inquiries through "Contact us".

[4] KIOXIA FIPS drives utilize a security module designed to comply with FIPS 140-2 Level 2 and FIPS 140-3 Level 2, which define security requirements for cryptographic module by NIST (National Institute of Standards and Technology). For the latest validation status, please make inquiries through "Contact us" in each region's website, <https://business.kioxia.com/>.

[5] Optional security feature compliant drives are not available in all countries due to export and local regulations.

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