KIOXIA

KIOXIA FL6 Series (2.5-inch)

(KFL61HUL/KFL6XHUL/KFL6DHUL/KFL6FHUL)

Enterprise NVMe™ SCM SSD

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.

The 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 DWPD (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 represent a design model.

Key Features

- PCIe® 4.0, NVMe™ 1.4 specification compliant
- 60 DWPD 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)
- Dual-port design for high availability applications
- High performance with low latencies of 29 µs (read latency) and 8 µs (write latency)
- 6th generation flash die failure recovery and double parity protection
- Power loss protection (PLP) and end-to-end data protection
- Suited for 24x7 enterprise workloads
- Security options: SIE, SED (TCG Opal/Ruby), FIPS 140-2[1, 2, 3, 4, 5]

Key Applications

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

Specifications

Base Model Number	**KFL61HUL3T20**	**KFL61HUL1T60**	**KFL61HUL800G**
SIE Model Number	**KFL6XHUL3T20**	**KFL6XHUL1T60**	**KFL6XHUL800G**
SED Model Number	**KFL6DHUL3T20**	**KFL6DHUL1T60**	**KFL6DHUL800G**
FIPS SED Model Number	**KFL6FHUL3T20**	**KFL6FHUL1T60**	**KFL6FHUL800G**
Capacity	3,200 GB	1,600 GB	800 GB
Basic Specifications			
Form Factor	2.5-inch, 15 mm thickness		
Interface	PCIe® 4.0, NVMe™ 1.4		
Maximum Interface Speed	64 GT/s (PCIe® Gen4 single x4, dual x2)		
Flash Memory Type	XL-FLASH™		

Specifications (Continued)

Capacity	3,200 GB	1,600 GB	800 GB
Performance (Up to)			
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
Power Requirements			
Supply Voltage	12 V ± 10 %, 3.3 V ± 15 %		
Power Consumption (Active)	19 W typ.	16 W typ.	14 W typ.
Power Consumption (Ready)	5 W typ.		
Reliability			
MTTF	2,500,000 hours		
Warranty	5 years		
DWPD	60		
Dimensions			
Thickness	15.0 mm +0 / -0.5 mm		
Width	69.85 mm ± 0.25 mm		
Length	100.45 mm Max		
Weight	130 g Max		
Environmental			
Temperature (Operating)	0 °C to 70 °C		
Temperature (Non-operating)	-40 °C to 80 °C		
Humidity (Operating)	5 % to 95 % R.H.		
Vibration (Operating)	21.27 m/s^2 { 2.17 Grms } (5 to 800 Hz)		
Shock (Operating)	9.8 km/s^2 { 1,000 G } (0.5 ms)		

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, and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

GT/s: Giga Transfers per second.

A kibibyte (KiB) means 2^10, 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 speed may vary depending on various factors such as host devices, software (drivers, OS etc.), and read/write conditions.

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

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

[2] SIE optional model supports Crypto Erase, which is a standardized feature defined by the technical committees (T10) of INCITS (the InterNational Committee for Information Technology Standards).

[3] SED optional model supports TCG Opal and Ruby SSCs. It has a few unsupported features of TCG Opal SSC. For more details, please make inquiries through “Contact us” in each region's website, https://www.kioxia.com/.

[4] FIPS SED optional model utilizes a security module designed to comply with FIPS 140-2 and FIPS 140-3, 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://www.kioxia.com/.

[5] Security optional models are not available in all countries due to export and local regulations.

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