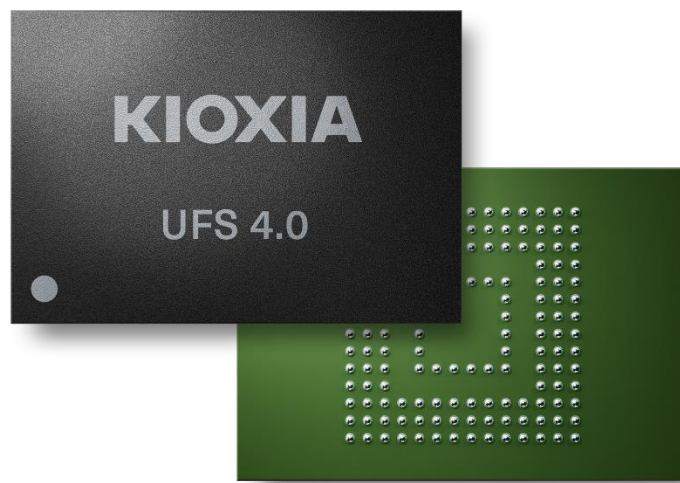


Press Release

KIOXIA Sampling Latest Generation UFS Ver. 4.0 Embedded Flash Memory Devices

Smaller Package Size and Performance Improvements Contribute to Better User Experience on Mobile Applications



Düsseldorf, Germany, 23 April 2024 – [KIOXIA Europe GmbH](#), a world leader in memory solutions today announced that it has begun sampling^[1] the latest generation of its Universal Flash Storage^[2] (UFS) Ver. 4.0 embedded flash memory devices. Supported in capacities of 256 gigabytes (GB), 512GB, and 1 terabyte (TB), the new products are well suited for a variety of next-generation mobile applications, including leading-edge smartphones.



The enhanced performance^[3] of the new UFS products provides optimal utilization of 5G connectivity, resulting in accelerated downloads, minimized latency, and an enhanced user experience. A smaller package^[3] size contributes to board space efficiency and design flexibility.

Key Features include:

- Read / write speed improvement over previous generation^[4]: approx. +15% sequential write, +50% random write and +30% random read.
- Package size reduction over previous generation^[5]: Package size is 9mmx13mm and package thickness is 0.8mm (256GB and 512GB) and 0.9mm (1TB), resulting in an approx. 18% reduction compared to conventional package size (11mmx13mm).

KIOXIA was the first to introduce UFS technology^[6] and continues to develop new products. The latest UFS Ver. 4.0 devices integrate the company's innovative BiCS FLASH™ 3D flash memory and a controller in a JEDEC standard package. UFS 4.0 incorporates MIPI® M-PHY® 5.0 and UniPro® 2.0 and supports theoretical interface speeds of up to 23.2 gigabits per second (Gbps) per lane or 46.4 Gbps per device. UFS 4.0 is backward compatible with UFS 3.1.

"KIOXIA's UFS technology is the 'racehorse equivalent' of the company's family of embedded storage devices. With our next-generation UFS 4.0, we have doubled the random write and increased random reads by 30%," said Axel Störmann, Vice President and Chief Technology Officer for Embedded Memory and SSD, KIOXIA Europe GmbH. "As development continues, we are proud to help accelerate mobile communication."

Sample shipments for the 256 and 512GB products begin this month, with the 1TB offering following in June 2024.

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NOTES:

1: Sample shipments of the 256GB and 512GB device began this month, with the 1TB device scheduled to follow after June 2024. Specification of the samples may differ from commercial products.



2: Universal Flash Storage (UFS) is a product category for a class of embedded memory products built to the JEDEC UFS standard specification. Due to its serial interface, UFS supports full duplexing, which enables both concurrent reading and writing between the host processor and UFS device.

3: Compared to the previous generation.

4: KIOXIA previous generation 512GB device

5: Compared to KIOXIA previous generation UFS 4.0 product.

6: KIOXIA Corporation's first sample shipment, as of February 8, 2013.

In every mention of a KIOXIA product: Product density is identified based on the density of memory chip(s) within the Product, not the amount of memory capacity available for data storage by the end user. Consumer-usable capacity will be less due to overhead data areas, formatting, bad blocks, and other constraints, and may also vary based on the host device and application. For details, please refer to applicable product specifications. The definition of 1KB = 2^{10} bytes = 1,024 bytes. The definition of 1Gb = 2^{30} bits = 1,073,741,824 bits. The definition of 1GB = 2^{30} bytes = 1,073,741,824 bytes. 1Tb = 2^{40} bits = 1,099,511,627,776 bits.

Read and write speeds are the best values obtained in a specific test environment at KIOXIA and KIOXIA warrants neither read nor write speeds in individual devices. Read and write speed may vary depending on the device used and the file size read or written.

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About KIOXIA Europe GmbH

KIOXIA Europe GmbH (formerly Toshiba Memory Europe GmbH) is the European-based subsidiary of KIOXIA Corporation, a leading worldwide supplier of flash memory and solid-state drives (SSDs). From the invention of NAND flash memory to today's breakthrough BiCS FLASH[™], KIOXIA continues to pioneer innovative memory solutions and services that enrich people's lives and expand society's horizons. The company's innovative BiCS FLASH[™] 3D flash memory technology is shaping the future of storage in high-density applications, including advanced smartphones, PCs, SSDs, automotive and data centers.

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