

KIOXIA BiCS FLASH™ 3D Flash Memory

The Next Generation is Here

The newest generations of KIOXIA BiCS FLASH™ 3D flash memory feature architectural innovations to meet the needs of data-centric applications, such as advanced smartphones, PCs, SSDs and data centers. KIOXIA BiCS FLASH™ 3D flash memory delivers performance, high density and cost effectiveness.



Dual-Axis Migration Strategy

To make the most effective use of CAPEX, KIOXIA blends two migration paths with CBA (CMOS directly Bonded to Array) technology to deliver more storage and performance for a wide variety of applications.



CELL ARRAY

332 Layers
Advanced Cell Array Technology

CMOS

Cutting Edge
Technology Based CMOS Circuit

CELL ARRAY

Leveraged by gen.5/gen.8
Proven Cell Array Technology

CMOS

Cutting Edge
Technology Based CMOS Circuit

Key Features*1

Higher Bit Density
(29 Gb/mm²)

59%

Higher Interface Speed
(Up to 4.8 Gbps)

33%

Enhanced Data-In Power Efficiency

10%

Enhanced Data-Out Power Efficiency

34%

Target Applications

Data Center

AI

Enterprise

Key Features*1

Capital Efficient

Enhanced

Higher Interface Speed
(Up to 4.8 Gbps)

33%

Enhanced Data-In Power Efficiency

10%

Enhanced Data-Out Power Efficiency

34%

Target Applications

Mobile PC

Smartphones/
Tablets

Gaming/AR/VR

What is CBA Technology?

KIOXIA has implemented **CBA (CMOS directly Bonded to Array)** technology wherein each CMOS wafer and cell array wafer are manufactured separately in its optimized condition and then bonded together to deliver enhanced bit density and fast NAND I/O speed. Fabrication of the cell and peripheral wafers separately enables optimization of each, eliminating the trade-off between cell reliability and I/O speed.

KIOXIA

KIOXIA delivers flash-based products for next-generation storage applications. Having invented NAND flash over 35 years ago, KIOXIA is now one of the world's largest flash memory suppliers – and continues to move the technology forward.

*1 Features and typical use performance improvements as compared between generation 8 and new generations of BiCS FLASH™ 3D 1Tb TLC flash memory.
'gen.X' = generation of BiCS FLASH™
'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 = 2³⁰ = 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.

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