Toshiba Memory Corporation Announces 96-Layer 3D Flash Memory

Fourth Generation Toshiba Memory Corporation BiCS FLASH[TM] adds layers, boosts capacity

Düsseldorf, Germany, 28 June, 2017 - Toshiba Memory Corporation, the world leader in memory solutions, today announced that it has developed a prototype sample of 96-layer BiCS FLASH™ three-dimensional (3D) flash memory with a stacked structure[1], with 3-bit-per-cell (triple-level cell, TLC) technology. Samples of the new 96-layer product, which is a 256 gigabit (32 gigabytes) device, are scheduled for release in the second half of 2017 and mass production is targeted for 2018. The new device meets market demands and performance specifications for applications that include enterprise and consumer SSD, smartphones, tablets and memory cards.

Going forward, Toshiba Memory Corporation will apply its new 96-layer process technology to larger capacity products, such as 512 gigabit (64 gigabytes) and 4-bit-per-cell (quadruple-level cell, QLC) technology, in the near future.

The innovative 96-layer stacking process combines with advanced circuit and manufacturing process technology to achieve a capacity increase of approximately 40% per unit chip size over the 64-layer stacking process. It reduces the cost per bit, and increases the manufacturability of memory capacity per silicon wafer.

Since announcing the world's first[2] prototype 3D flash memory technology in 2007, Toshiba Memory Corporation has continued to advance development of 3D flash memory and is actively promoting BiCS FLASH™ to meet demand for larger capacities with smaller die sizes.

This 96-layer BiCS FLASH™ will be manufactured at Yokkaichi Operations in Fab 5, the new Fab 2, and Fab 6, which will open in summer 2018.

Note:
[1] A structure stacking flash memory cells vertically on a silicon substrate to realize significant density improvements over planar NAND flash memory, where cells are formed on the silicon substrate.
[2] Source: Toshiba Memory Corporation, as of June 12, 2007.

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About Toshiba Electronics Europe

Toshiba Electronics Europe (TEE) is the European electronic components business of Toshiba Corporation. TEE offers a broad IC and discrete product line including high-end memory, microcontrollers, ASICs and ASSPs for automotive, multimedia, industrial, telecoms and networking applications. The company also has a wide range of power semiconductor solutions as well as storage products including HDDs, SSDs, SD Cards and USB sticks.

TEE was formed in 1973 in Neuss, Germany, providing design, manufacturing, marketing and sales and now has headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom. TEE employs approximately 300 people in Europe. Company president is Mr. Akira Morinaga.

For more company information visit TEE's web site at www.toshiba.semicon-storage.com.

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