

About Spansion

Spansion, the Flash memory subsidiary of AMD (NYSE:AMD) and Fujitsu (TSE:6702), is the world's leading manufacturer of NOR Flash memory. Spansion™ Flash memory is used by leaders in the wireless, automotive, networking, telecommunications and consumer electronics markets. Spansion offers the industry's broadest Flash memory portfolio, including 5V, 3V and 1.8V products from 1 to 512 Mbits in single-die and multi-chip product (MCP) configurations. Spansion engineering innovations, such as the award-winning MirrorBit™ technology and simultaneous read-write (SRW) architecture, continue to advance the state of the art.

To address global consumer desire for Flash-enabled products, Spansion operates four dedicated commercial Flash fabs and four dedicated Flash assembly sites around the world. All Spansion production fabs are certified to the demanding ISO/TS16949:2002 and ISO9001:2000 quality standards and the ISO14001 environmental standard. Spansion operates an advanced technology development fab to accelerate the introduction of next-generation products.

For more information about Spansion Flash memory solutions, please visit www.spansion.com.

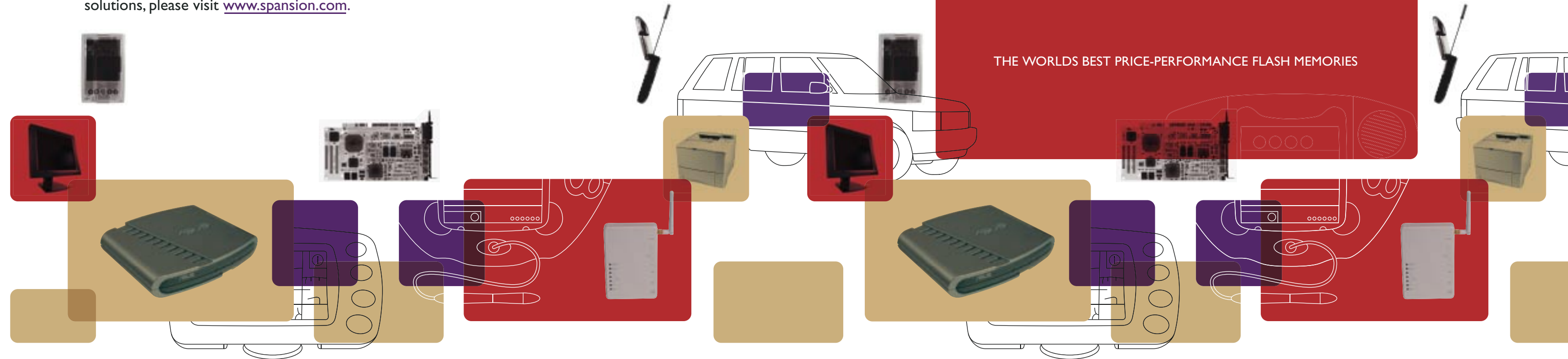
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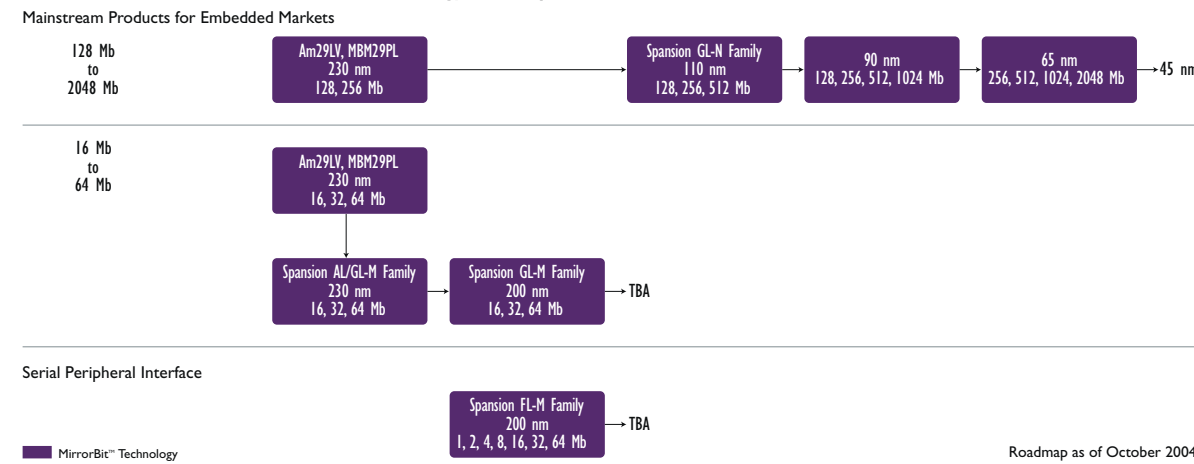
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SPANSION™ FLASH MEMORY WITH
MIRRORBIT™ TECHNOLOGY

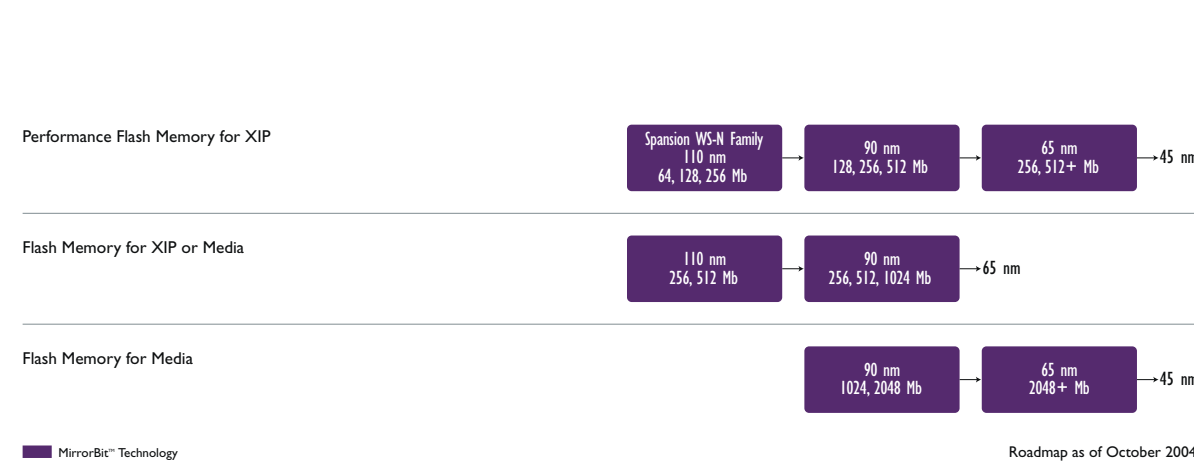
THE WORLDS BEST PRICE-PERFORMANCE FLASH MEMORIES



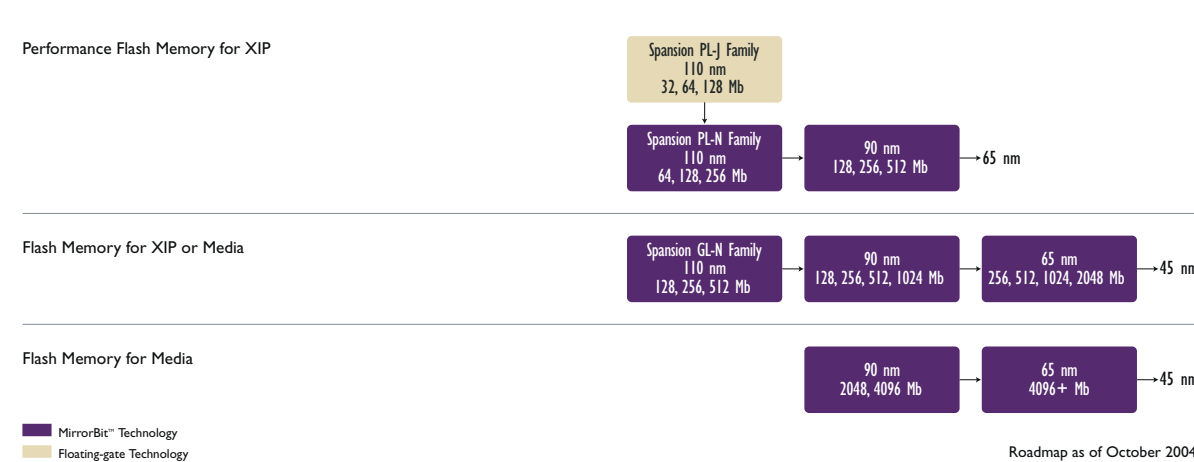
Technology Roadmap for Embedded Markets: 3.0 volts



Technology Roadmap for Wireless Markets: 1.8 volts



Technology Roadmap for Wireless Markets: 3.0 volts



"In fact, it is even possible that with MirrorBit technology, [Spansion] may encroach into some traditional NAND Flash markets."

Semiconductor Insights

The World's Best Price-Performance Flash Memories

Two years ago, MirrorBit™ technology revolutionized the Flash memory landscape when it became the first two-bit-per-cell technology to begin commercial production with a nitride-based storage element. Since then, customers have embraced MirrorBit technology across a wide range of applications, and Spansion is leveraging the technology throughout its mainstream product portfolio.

With over 2 billion megabits shipped during its first year of mass production, MirrorBit technology is fast becoming the next industry standard in Flash memory. Most recently, Spansion introduced the GL-N Flash memory family, featuring the world's first 512 Mb NOR device and extending MirrorBit technology into high-density applications, including consumer electronics, networking, gaming, and automotive.

Looking forward, MirrorBit technology from Spansion is positioned for continued industry leadership with unmatched price-performance and an aggressive roadmap to future cost reductions.

MIRRORBIT™ TECHNOLOGY AT-A-GLANCE

- Two physically distinct bits per memory cell
- Over 2 billion megabits shipped during the first year of production
- Improved cost structure
- Simpler to manufacture
- Product families optimized for wireless and embedded systems

"Second-generation MirrorBit technology will free our customers from the fundamental price-performance limitations of multi-level cell (MLC) floating-gate technology."

Bertrand Cambou
President and CEO
Spansion

"SAMSUNG Electronics is very pleased with Spansion's focus on customer needs in the development of MirrorBit technology. Spansion's new technology provides exactly the kind of price-performance needed for us to continue delivering many of the industry's most innovative and unique mobile phones."

KS Hyun
Vice President of
Telecommunication Networks
SAMSUNG Electronics

Award-Winning Technology

MirrorBit technology is fundamentally more advanced than conventional MLC and SLC floating-gate technology. As a result, MirrorBit technology enables designers to create innovative, cost-effective solutions like never before.

The MirrorBit cell doubles the intrinsic density of a Flash memory array by storing two physically distinct bits on opposite sides of a memory cell. Each bit within a cell serves as a binary unit of data (either 1 or 0) that is mapped directly to the memory array.

Reading or programming one side of a memory cell occurs independently of the data that is stored on the opposite side of the cell. As a result, MirrorBit technology delivers exceptional read and write performance for wireless and embedded markets.

Because of its symmetrical memory cell and non-conductive storage element, MirrorBit technology has been engineered to take advantage of a simple, efficient memory array. This array design greatly simplifies a device's topography and manufacturing process. The end result is the industry's best price-performance Flash memory technology.

MirrorBit Flash Array Layout

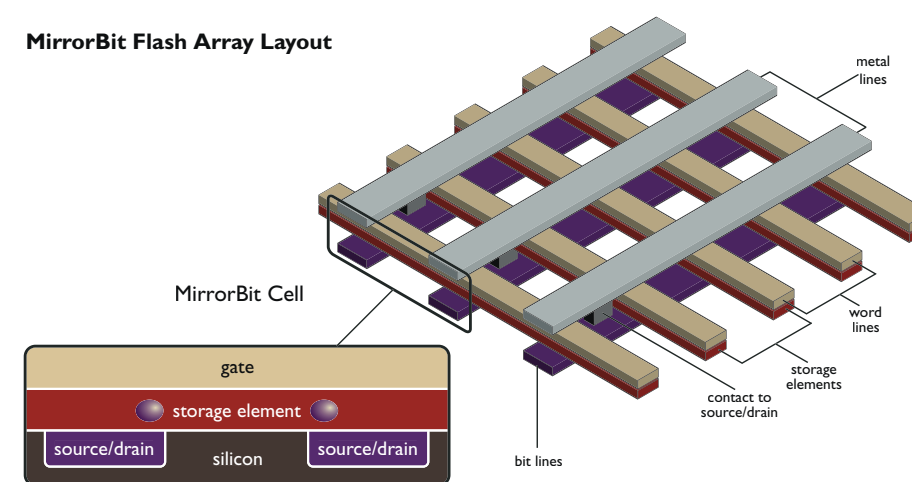


Figure 1: MirrorBit™ technology's symmetric design doubles the density of a Flash memory array. In addition, the MirrorBit array layout greatly simplifies the manufacturing process.

Reduced Cost through Improved Manufacturing

Spansion leverages its technology leadership to provide superior price-performance, and MirrorBit technology is no exception. The power of MirrorBit technology is its fundamental simplicity, from design through manufacturing. This simplicity eliminates 40 percent of the most difficult fab processes, which helps Spansion improve yield, quality, and manufacturing throughput.

Manufacturing yield becomes more critical when multiple products are combined into a single package. If any one die contained in a multi-chip product (MCP) fails, the entire device must be scrapped. Consequently, MirrorBit technology's yield advantage results in substantial cost structure improvement for multi-chip products.

For customers, the simplicity of MirrorBit technology translates into many of the world's best price-performance Flash memory products. Continuing a solid history of cost reduction, Spansion plans to use technology migration to lower costs for both the existing GL-M and the new GL-N families.

Quantitative Benefits of MirrorBit™ Technology

MirrorBit technology delivers an incredible combination of leading-edge process lithography, intrinsic manufacturing yield, and manufacturing throughput to enable the industry's best price-performance Flash memories. MirrorBit technology delivers:

- Intrinsic manufacturing yields as much as 30% higher than multi-level cell (MLC) floating-gate technology
- Number of critical mask layers reduced by 40% as compared to MLC floating-gate technology
- Streamlined manufacturing process for 10% higher fab throughput than MLC floating-gate technology

MirrorBit technology easily scales to smaller process lithography, and Spansion plans to extend its cost structure leadership with third-generation MirrorBit technology (90 nm) in 2005. As MirrorBit technology moves to 65 nm and beyond, customers can look forward to additional price-performance improvements.

Performance and Features

With the industry's best price-performance Flash memory, MirrorBit technology supports features and specifications comparable to single-level cell floating-gate technology:

- Optimized for wireless markets
- Burst-mode access as fast as 80 MHz; page access times as fast as 25 ns
- Simultaneous read-write operation for combined code and data storage
- Typical standby power as low as 1 µA
- Multi-chip products (MCP) available

- Optimized for embedded markets
- Industrial operating temperatures
- Page-mode access with 8 words per page
- Advanced Sector Protection for robust security
- Easy-to-use TSOP and Fortified BGA packages

And with new product families in development and a clear roadmap for future innovation, customers can continue to benefit from MirrorBit technology's features and specifications for a long time to come.

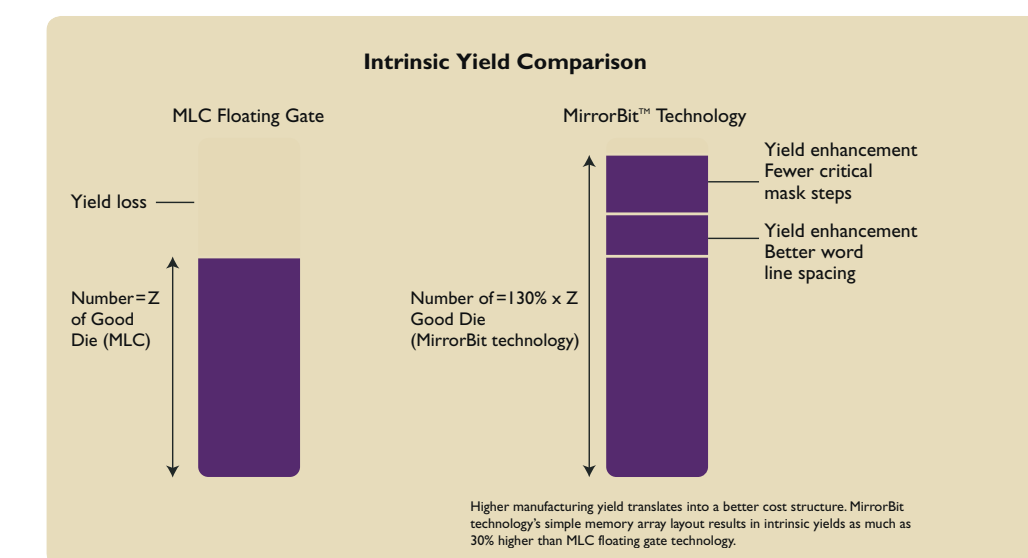


Figure 2: MirrorBit™ technology results in an industry-leading cost structure.

"MirrorBit technology, which was only a specification in 2001, required just three years and two generations of development to surpass what competing MLC floating-gate solutions achieved in seven years and four generations."

Bertrand Cambou
President and CEO
Spansion