

Spancion Announces World's First Single-chip 1 Gigabit NOR Flash Memory

October 14 2005

Spancion LLC, the Flash memory venture of AMD and Fujitsu Limited, today announced it is sampling the world's first single-chip 1 gigabit (Gb) NOR Flash memory device to customers in the embedded market. Based on 90-nanometer MirrorBit technology, the 1 Gb MirrorBit GL device is the highest density, single-chip NOR Flash memory device on the market.

It is designed for reliable code execution and data storage in a wide range of embedded applications including automotive navigation systems, communications infrastructure equipment, gaming and industrial control. The 1 Gb MirrorBit GL device is the first based on the Spancion 90-nm MirrorBit process technology unveiled last month.

"Spancion's announcement of a 1 Gb 90-nm NOR device keeps the company in the density lead, where they have been since last year's introduction of a 512Mb chip," said Jim Handy, Semico's Director of Nonvolatile Memory Services. "It is important that they have designed this part and the family as a whole for the needs of the embedded market, which often gets overlooked in favor of Flash chips for cell phones."

The 1 Gb MirrorBit GL device extends the MirrorBit GL family, which also includes the industry's only single-chip 512 megabit (Mb) NOR Flash memory device in production. By scaling MirrorBit technology to 90 nm and doubling the density of its NOR Flash memory, Spancion reduces component costs because it enables customers to use a single-

chip device, instead of multiple lower density discrete solutions or more costly multi-chip packages containing stacked lower density die. Moreover, as an extension of its existing embedded product families, the device allows customers to easily migrate to new high-density solutions, without having to engage in costly and complex system redesign.

Spansion's new 1 Gb device augments the company's broad product offering which includes densities ranging from 1 Mb up to 1 Gb. Backwards compatible with previous generation products (down to the 2 Mb density), the device supports common software, pin-out and packaging and can be rapidly deployed without requiring costly board redesign. The 1 Gb MirrorBit GL is package and pin-out compatible with all MirrorBit GL-M (230 nm), MirrorBit GL-A (200 nm) and MirrorBit GL-N (110 nm) devices as well as legacy Fujitsu and AMD LV family members (back to the 320 nm lithography). Packaging is also JEDEC-compliant.

The Spansion 1 Gb MirrorBit product joins the Spansion GL family which includes densities ranging from 16 Mb up to 512 Mb – all in production today. The 1 Gb MirrorBit GL operates at 3.0 volts, features a random read speed of 110 nanoseconds, and offers a page read speed of 25 ns via an 8-word page buffer.

The new 1 Gb MirrorBit GL part enables users to either execute code directly out of the Flash memory or shadow into DRAM at high speeds. The device supports industrial temperature ranges from -40 to +85 degrees Celsius. The 1Gb MirrorBit GL uses a NOR architecture that is designed to deliver 100 percent good sectors, eliminate the need for ECC and support a standard parallel interface, reducing system complexity and cost.

For applications requiring advanced security, Spansion supports Advanced Sector Protection (ASP) technology on the 1 Gb MirrorBit

GL. ASP provides robust and complete designer-defined security with 64-bit password protection for sensitive software algorithms or parameters. The feature can be used by designers to store, lock and protect code or data stored on any sector of the device, or assign an electronic serial number (ESN) to their product. In some applications, the central office can use an ESN to identify their equipment remotely, control service levels and record access for billing purposes. The feature can help prevent malicious attacks and viruses, as well as help prevent unauthorized use of services.

Spansion is providing samples of the 1 Gb MirrorBit GL device now to a select group of customers. Production is slated to begin in late Q4. The part number for the 1 Gb MirrorBit GL is S29GL01GP. The product is offered in 56-pin TSOP and 64-ball Fortified BGA packaging. It will be priced at approximately \$18.50 in quantities of 10,000.

Source: AMD

Citation: Spansion Announces World's First Single-chip 1 Gigabit NOR Flash Memory (2005, October 14) retrieved 30 June 2024 from <https://phys.org/news/2005-10-spansion-worlds-single-chip-gigabit-memory.html>

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