

Samsung Begins Volume Production of First 80-nanometer DDR2 Memory

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Samsung Electronics announced today that it is the first manufacturer in the industry to begin mass producing DDR2 DRAM - 512 Megabit (Mb) - on an 80 nanometer scale.

With 80-nm process technology, Samsung is able to increase its production efficiency by 50 percent over the previous 90-nm process. The production economies of scale afforded by moving to 80-nm process technology will better enable the company to meet increasing demand for DDR2.

"With demand for DDR2 at its highest level since its market debut in 2004, our 80-nm technology provides us with the ability to more efficiently support the sustained demand growth that is expected in the

DDR2 marketplace this year," said Tom Trill, director, DRAM Marketing, Samsung Semiconductor, Inc.

Samsung was able to smoothly transition from 90-nm to 80-nm process technology because it utilized many of the basic features of 90-nm geometries, and as a result required minimal upgrades to its fabrication lines.

The move to 80-nm circuitry was sped up by the use of a recess channel array transistor (RCAT). This three-dimensional transistor layout greatly enhances the refresh rate, which is a critical element in data storage. Samsung's RCAT also reduces cell area coverage, which allows for increased process scaling by freeing up space for chip-per-wafer growth.

According to Gartner Dataquest, a semiconductor industry research organization, DDR2 memory will comprise over 50 percent of the entire DRAM market in 2006.

Source: Samsung Electronics

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