

# **Elpida Introduces the World's Fastest DRAM Based on the Rambus XDR Memory Architecture**

October 5 2007

---

Elpida Memory, Japan's leading global supplier of Dynamic Random Access Memory (DRAM) and Rambus Inc., one of the world's premier technology licensing companies specializing in high-speed chip architectures, today introduced the industry's fastest DRAM, the 512 Megabit (Mb), 4.8GHz XDR DRAM, based on Rambus' XDR memory architecture.

This latest addition to the XDR DRAM family provides an industry-leading data transfer rate of 9.6 Gigabytes per second (GB/s) with a single device, making it an ideal choice for high-performance, high-volume applications such as high-definition televisions (HDTV), gaming consoles, PCs, servers and workstations.

"The industry's demand for memory bandwidth in next-generation products is growing rapidly as high-definition image data becomes more popular," said Yoshitaka Kinoshita, officer for the Digital Consumer Division of Elpida Memory, Inc. "Working with Rambus on XDR DRAM, we can provide the most cost-effective, high-bandwidth memory solution to our customers."

Elpida's 512Mb, 4.8GHz XDR DRAM device is organized in 8-banks (x16/x8/x4 programmable), and with a 9.6GB/s data transfer rate delivers six times the peak bandwidth of industry-standard DDR2-800 memory devices. The 4.8GHz XDR device is manufactured using

Elpida's 70 nm process technology and is available in a 104-ball FBGA package.

To support both high-speed and robust data transfer, XDR DRAM utilizes key enabling technologies built on patented Rambus innovations such as Differential Rambus Signaling Level (DRSL), which minimizes signal swing and noise; Octal Data Rate (ODR) technology which transfers eight bits of data on each clock cycle to achieve 4.8GHz operation with just a 600MHz clock; and FlexPhase circuit technology for precise on-chip data alignment with the clock. The 512Mb XDR DRAM device also features adaptive impedance matching, dynamic request scheduling and zero overhead refresh.

"Elpida's 4.8GHz XDR DRAM is an excellent fit for consumer electronics applications requiring high bandwidth for 3-D graphics, high-definition image processing, and advanced multimedia," said Sharon Holt, senior vice president of worldwide sales, licensing and marketing at Rambus. "Elpida is well established as a leading XDR DRAM supplier and we are proud to work with them to advance the roadmap for XDR to 4.8GHz, achieving the world's fastest DRAM."

XDR DRAM is an integral part of the XDR memory architecture, working seamlessly with the XDR Memory Controller (XMC), XDR IO controller interface cell (XIO), and the XDR Clock Generator (XCG) to enable unprecedented levels of memory performance while utilizing the fewest number of ICs. A single XDR DRAM device operating in x16 mode achieves a data transfer rate of 9.6GB/s. In comparison, it requires six DDR2-800 x16 devices to achieve an equivalent data rate.

Elpida's 512Mb 4.8GHz XDR DRAM devices will be available for sampling in December 2007. Volume production is expected to begin in April 2008.

Source: Elpida Memory

Citation: Elpida Introduces the World's Fastest DRAM Based on the Rambus XDR Memory Architecture (2007, October 5) retrieved 28 April 2024 from <https://phys.org/news/2007-10-elpida-world-fastest-dram-based.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.