

QDR™II and DDRII SRAM Specifications Now Public

Comprehensive QDR™ SRAM Family Targets Network Switches, Routers

San Jose, CA, October 15, 2001 – Cypress Semiconductor Corp. (NYSE: CY), Hitachi, Ltd. (NYSE: HIT), Integrated Device Technology, Inc. (NASDAQ: IDTI), Micron Technology, Inc. (NYSE: MU), NEC Corporation (NASDAQ: NIPNY), and Samsung Electronics Co, Ltd. (KSE: 05930) today announced the release of the complete specification for the Quad Data Rate™ II (QDRII) and Double Data Rate II (DDRII) SRAM architectures. Operating at speeds of up to 333 MHz, the QDRII and DDRII products are the second-generation, high-performance communications memory standard for network switches, routers, and other communications applications. For the first time, datasheets for QDRII and DDRII SRAMs are publicly available on the QDR SRAM web site (www.qdrsram.com).

The comprehensive portfolio for the QDR product family satisfies the spectrum of networking applications with five distinct advanced SRAM architectures. The QDR product family includes: QDR Burst 2; QDR Burst 4; DDR common I/O, Burst 2; DDR common I/O, Burst 4; and DDR separate I/O, Burst 2. Each architecture is available in an x8, x18 and x36 configuration. Advanced features promoting the design integration of QDR architectures include: 1.8V operation, providing power management in dense circuit board designs; data valid window that is 65-percent of the clock cycle, providing a 1.3 ns data valid window at 250 MHz; and a 165-pin, 13mm x 15mm FBGA package, providing a 40-percent space savings over traditional packages and designed for clamshell applications.

“QDRII devices enable the next generation OC-192 and OC-768 networking systems to achieve up to 36 Gbps memory bandwidth available soon,” said Mario Martinez, Director of Strategic Marketing for Cypress Semiconductor. “All these factors—including 500 MHz+ data rates, multiple sources with in-house manufacturing capability, a product strategy that aligns with next-generation networking applications, and current product availability—remove any uncertainty about designing for QDRII and DDRII products.”

QDR and DDR devices form an integral part of the QDR family and allow designers a complete SRAM memory solution for any application. QDR devices have two ports operating independently at twice the clock rate, allowing a transfer of four data words in one clock cycle. Common I/O DDR devices

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allow double data rate transfers over the I/O data bus. Separate I/O DDR devices provide the same DDR interface with separate input and output buses.

“The QDR product family is a comprehensive SRAM solution for networking applications,” said Bob Merritt, memory analyst for Semico Research. “The original QDR devices offered a significant performance boost for high-speed networking designers. QDRII memories are a major step forward for bandwidth-hungry communications products. By opening up the QDRII specification, the QDR group provides detailed design standards, a clear roadmap and the assurance of multiple sources from leading SRAM manufacturers. It’s a significant plus for the design community.”

About the QDR Co-Development Team

In 1999, the QDR co-development team was created to define a new family of SRAM architectures for high-performance communications applications. The QDR co-development team currently consists of Cypress (www.cypress.com), IDT (www.idt.com), Micron (www.micron.com), NEC (www.nec-global.com), and Samsung (www.samsungelectronics.com). These companies cooperate in the development of the QDR family of networking SRAMs. They design and manufacture this family of products in their own fabrication facilities and develop products according to their own schedules, competing in the marketplace. Additional information on the QDR SRAM technologies, including roadmaps, are available on our website at www.qdrsram.com. Hitachi (<http://global.hitachi.com>) signed a letter of intent to join the QDR co-development team in September, 2001.

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QDR and Quad Data Rate SRAMs comprise a new family of products developed by Cypress, IDT, Micron Technology, Inc., NEC and Samsung. All registered trademarks or trademarks are the property of their respective owners.

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