

## **CYPRESS INTRODUCES WORLD'S FIRST HIGH-DENSITY QuadPort™ RAM**

### **Revolutionary Product Signals Cypress's Leap into New Communications Memory Solutions**

SAN JOSE, California...November 29, 1999 -- Cypress Semiconductor Corporation (NYSE: CY) today debuted the QuadPort™ RAM, the next-generation, bandwidth-optimized synchronous memory targeted for networking and storage applications. The QuadPort RAM's four completely independent ports can simultaneously access its 1-Mbit (64K x 18-bit) memory array, and can all operate in different frequency domains. Each port can read or write at 133 MHz, giving the QuadPort RAM a bandwidth of 9.6 Gbps (4 ports x 18 bits x 133 MHz). The QuadPort RAM offering is consistent with Cypress's emphasis on bandwidth for specialty memories, rather than simply focusing on density.

The QuadPort RAM can provide access to up to four separate processors/busses simultaneously. Additionally, it can service new applications that current specialty memories are unable to address. For example, the QuadPort RAM can be used to provide redundant data paths for mission-critical applications, allowing an extra link to be connected in case a data path fails. It can also serve as a four-port shared memory switch fabric where data can be read from any port and routed to any of the others (or back through the same one).

"This is a truly revolutionary product that clearly positions Cypress as the technology leader in specialty memories," said Geoff Charubin, director of Specialty Memories for Cypress's Datacom Division. "The QuadPort RAM opens up a plethora of new design possibilities and applications for specialty memories while providing industry-leading performance numbers. We believe that this device will find many homes in storage and telephony switches, where the 4X access to memory will enable dramatic performance improvements."

The Quad-Port RAM utilizes Cypress's 0.25-micron CMOS technology. The specialized memory cell allows truly simultaneous access to data from all of the four ports on the device. Other multiple-port memory devices require wait states, multiple devices, and complex external logic if more than two ports request information at the same time. Additionally, the four independent ports can operate at different data rates, providing seamless interfacing between multiple, disparate clock domains.

### **Specialty Memory Focus**

Cypress has introduced families of higher performance, deeper, and wider specialty memory devices over the last three years, gaining market share and enhancing its specialty memory portfolio. The company's emphasis on bandwidth addresses the demands of local area networks (LANs), wide area networks (WANs), and storage attached networks (SANs), all of which are used to transfer and store the rapidly expanding amount of data that travels over the Internet.

Bandwidth can be increased by several methods including increasing the number of access ports, widening the word width of devices, and/or increasing clock speeds. Cypress has and will continue to use all three of these methods to extend its leadership with new architectures optimized for bandwidth. The company is currently at the 10 Gbps barrier and plans to achieve 25 Gbps later next year.

### **Price and Availability**

Cypress's QuadPort RAM (CY7C0430V) is offered in a 256-ball BGA package with a 1.27 mm lead pitch, and 27 mm x 27 mm package dimension. Samples of the QuadPort RAM are expected to be available in the first quarter of 2000, with full production slated for the second quarter. The QuadPort RAM is priced at \$98 for 10,000-unit quantities.

## **About Cypress**

Cypress Semiconductor provides high-performance integrated circuit solutions “By Engineers. For Engineers.™” for fast-growing companies in fast-growing markets, including data communications, telecommunications, computation, consumer products, and industrial-control. With a focus on emerging communications applications, Cypress's product lines include networking-optimized and micropower static RAMs; high-bandwidth multiport and FIFO memories; high-density programmable logic devices; timing technology for PCs and other digital systems; and controllers for Universal Serial Bus (USB). Cypress is No. 1 in the USB and clock chip markets.

More than two-thirds of Cypress's sales come from fast-growing datacom/telecom markets and dynamic companies such as Lucent, Cisco, 3Com, Alcatel, Motorola, Ericsson, and Northern Telecom. Cypress's ability to mix and match its broad portfolio of intellectual property enables targeted, integrated solutions for high-speed systems that feed bandwidth-hungry Internet applications. Cypress aims to become the preferred silicon supplier for Internet switching systems and for every Internet data stream to pass through at least one Cypress IC.

Cypress's employs more than 3,500 people worldwide with international headquarters in San Jose, California. Its shares are listed on the New York Stock Exchange under the symbol CY. More information about Cypress is accessible electronically on the company's worldwide web site at <http://www.cypress.com> or by CD-ROM (call 1-800-858-1810). An electronic investor forum, and other investor information, is located at <http://www.cypress.com/investor/index.html>.

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