

## **CYPRESS OFFERS FIRST PCI CORES FOR CPLDs**

### **Free Cores Provided as VHDL Source Code for Easy Integration into Ultra37000™ CPLDs**

SAN JOSE, Calif., January 25, 1999 — Cypress Semiconductor Corporation today introduced the first PCI cores designed specifically for CPLDs. The new PCI cores, exclusively for use with the Ultra37000 family of CPLDs, are flexible, zero-wait-state, VHDL-based PCI interfaces supporting 32-bit, 33-MHz PCI applications. They are fully compliant with Rev. 2.1 of the PCI specification, allowing designers to focus on value-added features and functions while reducing time to market.

Cypress is providing the PCI cores as VHDL source code. Users can easily integrate the cores into their design description using Cypress's *Warp2*® design software. This offers the flexibility to place the core anywhere in the target device as opposed to other vendors' fixed, device-specific modules that require restricted placement within a device to meet performance objectives. HDL cores also make it easy for designers to only implement the parts of the core that are necessary for their designs, saving logic resources for other features. Cypress is offering the new PCI cores free of charge, although cores offered as source code usually cost thousands of dollars because of the flexibility that they provide.

"Users can now get the performance and ease-of-use advantages of CPLDs for applications that require extensive logic," said Norman Taffe, Cypress's programmable logic marketing manager. "This shows that CPLDs are moving into areas that previously were only served by FPGAs."

### **CPLDs Provide Advantages for PCI**

Until now, CPLDs have been too small for PCI cores, forcing designers to use FPGAs, which entails a more complicated design flow and less predictable results. Cypress's new PCI cores are specifically optimized for CPLDs. Cypress's library of PCI cores will include three versions of the Target design and two versions of the Initiator design (the smallest core utilizes only 133 macrocells, fitting easily into a 192-macrocell device). With Ultra37000 CPLDs available up to 512 macrocells, users can select the core and device density combination that offers the best combination of features and cost for their specific application.

Some advantages of using CPLDs instead of FPGAs to implement PCI include:

- CPLDs are a one-chip solution, eliminating the need for an external "boot-PROM" device;
- CPLDs are non-volatile, allowing the PCI design to begin operating immediately upon power-up;
- CPLDs have simple timing (a single, fixed delay for Ultra37000 devices), greatly simplifying the integration of PCI with custom logic while maintaining maximum performance, thus improving overall time to market.

### **Cypress Ultra37000 CPLDs**

Cypress's Ultra37000 CPLD family consists of 14 devices, ranging from 32 to 512 macrocells. It offers a simple, fixed timing model that guarantees pin-to-pin propagation delays as fast as 5 ns for the 32-macrocell device, and 7.5 ns for the 256-macrocell device. Available in both 3.3-V and 5-V versions (the 3.3-V devices are 5-V tolerant), the family also offers Cypress's In-System Reprogrammability (ISR™), which assures that logic changes don't affect pinouts or critical timing.

### **Price and Availability**

Cypress's PCI cores are licensed without charge exclusively for customers designing with Cypress's Ultra37000 CPLDs. The PCI Target cores are available now, and the PCI Initiator cores will be available in the second quarter. Customers can get additional information, including an application note, at <http://www.cypress.com/pld/cores/>.

Cypress Semiconductor Corporation, headquartered in San Jose, California, provides a broad range of integrated circuits for leading computer, networking, and telecommunications companies worldwide. Cypress's products include static RAM and specialty memories, programmable logic devices (PLDs), data communications products, timing devices, and USB microcontrollers. Its shares are listed on the New York Stock Exchange under the symbol CY, and its web site is <http://www.cypress.com>.

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