

PRESS RELEASE

CYPRESS INTRODUCES LOW-COST, LOW-SKEW CLOCK BUFFERS

"RoboClock Jr." Devices Offer Near Zero Propagation Delay, 250 ps Pin-to-Pin Skew

SAN JOSE, Calif., February 20, 1995 -- Cypress Semiconductor Corporation today introduced the low-cost, low-skew CY7B9910 and CY7B9920 clock buffers. The two devices generate eight copies of an input clock, utilizing an internal Phase Locked Loop (PLL) to control skew to only 250 picoseconds (ps), while offering near zero (500 ps) input-to-output propagation delay. Current clock buffers without PLLs incur propagation delays in excess of 5 ns, and low propagation delay is critical when synchronizing several clock signals. The CY7B9910/20 also offer the lowest device-to-device skew in the industry (guaranteed to be less than 1 nanosecond), an important factor in distributing clocks across several boards in a system.

The CY7B9910/20's 15-80 MHz operating range is ideal for high-performance applications requiring low skew, including 486, Pentium™, 680X0 and RISC processor systems. In addition, new bus standards such as PCI require a 50% duty cycle, a specification guaranteed by the CY7B9910/20. Non-PLL based clock buffers do not control pulse skew which creates duty-cycle distortion on an incoming system clock.

The CY7B9910/20 complement Cypress's popular programmable skew clock buffers, the CY7B991/2 (internally code-named "RoboClock"), offering users solutions for a variety of timing needs.

Bill Eichen, marketing manager for Cypress's DataCom products, stated, "The CY7B9910/20, which we refer to internally as 'RoboClock Jr.,' offer a new level of price/performance. These products are an excellent solution to low-skew clock distribution in high-speed systems where cost is critical. They are built with proven technology implemented in our highly successful 'RoboClock' products, so we can immediately produce the devices cost effectively."

The PLL on the CY7B9910/20 is fully integrated and requires no external filter components. Other PLL-based clock buffers with external filters become susceptible to noise and require careful board layout techniques.

All key skew specifications of the CY7B9910/20 are tested and guaranteed, including pin-to-pin skew, propagation delay, and rise and fall time. Cypress is the only supplier that tests and guarantees all skew specifications for a skew control device, ensuring reliable operation in customer systems.

The CY7B9910 provides TTL logic levels; the CY7B9920 delivers CMOS logic levels. Both devices offer robust output drivers with the ability to drive 50 ohm terminated transmission lines with extremely low output-to-output crosstalk.

Price and Availability

Both the CY7B9910 TTL-output version and the CY7B9920 CMOS-output version are available now in production quantities. Available in 24-pin SOIC packages for low-profile requirements, the devices are priced at \$4.95 each in 10,000-unit quantities.

Cypress Semiconductor Corporation is a leader in the design, development, and manufacture of a broad line of high-performance digital integrated circuits, fabricated using its proprietary 0.65- and 0.8-micron CMOS and BiCMOS technologies. Cypress offers a range of products, including PLDs (programmable logic devices), FPGAs (field programmable gate arrays), static RAMs (random access memories), CMOS PROMs

(programmable read-only memories) and EPROMs, high performance multichip modules, frequency synthesizer products, specialty memories, FCT logic products, and data communications products.