

PRESS RELEASE

CYPRESS ENTERS ETHERNET MARKET WITH 100BASE-T4 TRANSCEIVER

Highly Integrated Fast Ethernet Transceiver Offers 100 Mbit/Second Transmission over Cost-Effective Twisted-Pair Cable

SAN JOSE, Calif., March 20, 1995 -- Cypress Semiconductor Corporation today introduced a dual-speed 10/100 Megabit/second (Mbps) Ethernet Transceiver that allows high-speed data transfer over currently installed category 3, 4, and 5 unshielded twisted-pair (UTP) cable. The CY7C971 supports the 100Base-T4 Fast Ethernet standard, along with 10Base-T, and 10Base-T full duplex, allowing seamless integration of 100 Mbps equipment into existing 10 Mbps networks. It provides an economical solution for building dual-speed 100Base-T4/10Base-T adapter cards, repeaters, bridges, routers and switches.

The CY7C971 offers the highest level of integration available in a 100Base-T4 transceiver. It incorporates adaptive equalization, clock recovery, encoder/decoder functions, and transmit and receive filters into a single chip. The high degree of integration eliminates the need for multiple transceivers, filters, and relays, saving cost, board space, and design time. For example, integrating external filters can reduce Fast Ethernet port cost by \$10. The CY7C971 is offered in an 80-pin PQFP (plastic quad flatpack) package which conforms to the width of an RJ45 connector, allowing a higher density of 100Base-T4 ports in repeater applications.

The CY7C971 represents Cypress's most recent entry in the fast-growing data communications market. Cypress previously introduced HOTLink™, a high-speed, point-to-point chipset for ESCON™, Fibre Channel and serial backplane applications. The company followed with the Serial SONET Transceiver (SST™) for ATM applications. Cypress now offers physical layer solutions for the dominant, high-speed networking standards of the 1990s -- Fast Ethernet, ATM, and Fibre Channel -- positioning the company as the leading provider of physical layer data communications products.

Dan McCranie, Cypress's vice president of sales and marketing, said, "The CY7C971 gives Cypress the lead in the Fast Ethernet market. This market is poised for explosive growth, and the Cypress solution offers networking equipment vendors an immediate upgrade path to 100 Mbps from a leading manufacturer. We anticipate strong demand for this product, and continued growth for our data communications division."

The CY7C971 implements Auto-Negotiation (also known as the NWay algorithm). Auto Negotiation allows the device to configure itself to the highest speed available of the three operating modes (100 Mbps, 10 Mbps, and 10 Mbps full duplex) with a single RJ45 connection and with no management intervention. This feature allows users to plug dual-speed devices designed with the CY7C971 into standard 10Base-T networks with the assurance that when the network is upgraded to 100 Mbps, the CY7C971 will transparently switch to the highest speed.

The CY7C971 also provides an on-chip adaptive equalizer. The equalizer senses the length of the cable over which data is transmitted, and adapts to the length of the cable on every frame. The frame-to-frame adaption compensates for temperature and environmental variations that change the attenuation characteristics of the cable during normal operation. The equalizer can handle worst case cables such as Category 3 PVC-insulated cables, which exhibit large performance variations with temperature changes, a feature unavailable from any other 100Base-T4 transceiver.

The CY7C971's equalizer also has the advantage of being analog-based, delivering performance up to twice as fast as digital signal processor (DSP)- based equalizers. The lower latency enables designers to add valuable features such as additional ports in stackable hubs. The CY7C971's lower latency also makes it the only Fast Ethernet transceiver that can be used for Class 2 repeater applications. The device's Media Independent Interface (MII) can be bypassed to offer a low latency solution that allows up to two repeaters within a single collision domain. The additional repeater adds capacity and flexibility to the network.

Bill Eichen, marketing manager for Cypress's DataCom division, said, "The CY7C971 offers the best solution for 100Base-T4 products. It is a more flexible, more robust, and higher performance device than any competitive products. Our customers will find this product an essential building block for creating economical, high-performance products."

Price and Availability

The CY7C971, which is built using Cypress's high-speed, low-power 0.65-micron CMOS process, is offered in an 80-pin PQFP package, and costs \$25 in 1000-piece lots. Samples of the CY7C971 will be available in the second quarter.

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 0.5-, 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, FCT logic products, specialty memories, and data communications products.

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