July 20, 2021

New Ethernet PHYs Enable Multidrop Bus Architecture, Enhancing Industrial Networks' Scalability and Functionality

Microchip's LAN867x family of Ethernet PHYs is the first to implement the IEEE® 10BASE-T1S single-pair Ethernet technology standard for connecting devices in industrial networks

CHANDLER, Ariz., July 20, 2021 (GLOBE NEWSWIRE) -- Smart manufacturing is driving efficiencies in automation as digital networks increasingly connect machines, production line equipment and robotics. Operational Technology (OT) and Information Technology (IT) networks that are critical to the Industrial Internet of Things (IIoT) rely on Ethernet for interoperability and to speed data transmission and ensure security. The **LAN867x family of 10BASE-T1S PHYs**, a new solution available today from Microchip Technology Inc. **(Nasdaq: MCHP)**, expands Ethernet connectivity to the very edges of industrial networks, simplifying architectures and reducing risk for designers.

Microchip's LAN867x Ethernet Physical Layer (PHY) transceivers are high-performance, small-footprint devices enabling connections to standard system devices including sensors and actuators that previously required their own communication systems.

With the LAN867x devices, all-Ethernet infrastructures in OT and IT systems can be expanded to the edges of the network. Microchip's LAN867x devices eliminate the need for gateways that in the past were needed to interconnect incompatible communication systems. The single pair of wires reduces cost, while the multidrop bus architecture reduces the need for expensive switches and enhances scalability. Several nodes can operate on the same bus line with high data throughput.

Microchip's LAN8670, LAN8671 and LAN8672 Ethernet PHYs are the industry's first designed and validated to the new 10BASE-T1S standard for single-pair Ethernet released by IEEE. 10BASE-T1S addresses the challenges of creating all-Ethernet architectures for industrial applications such as process controls, building automation and consolidation of systems with multiple interconnection technologies. The configuration enables a multidrop (bus line) topology, fewer cables, development on printed circuit boards, with up to at least eight nodes and up to at least a 25-meter range.

All-Ethernet infrastructures simplify architectures by using well-known communication and security mechanisms. This reduces cost and risk when designing new systems. Additional advantages of Ethernet include use of the same protocol independent from physical layer speed, and operation within established security infrastructures and ecosystems.

"Microchip's 10BASE-T1S technology provides an advantage for our endpoint-to-cloud integration, connecting products, controls, software and services in a simpler and more cost-effective way," said Julien Michel, Connected Systems project leader at Schneider Electric. "The technology will help to make the most of our energy and resources, bridging progress and sustainability for all."

"For industrial system architects and designers, interconnection of many different communication devices and technologies often is difficult and error prone," said Matthias Kaestner, vice president, Automotive. "Using 10BASE-T1S Ethernet simplifies these interconnections, enhancing interoperability and speed, which is critical in the industrial environment."

The LAN867x expands Microchip's product portfolio and total system solutions for industrial applications that include microcontrollers (MCUs), microprocessors (MPUs) and switches with Ethernet interfaces, as well as development tools, evaluation boards and support.

Development Tools

Reference designs, software drivers, system simulator and evaluation boards are available to enable easy design-in of the LAN8670, LAN8671 and LAN8672 Ethernet PHYs.

Pricing and Availability

LAN8670, **LAN8671** and **LAN8672** devices are available from Microchip for volume orders in 32-pin, 24-pin and 36-pin Very thin profile Quad Flat Non-Leaded (VQFN) packages, respectively. For pricing and additional information, contact a Microchip sales representative or authorized worldwide distributor. To purchase products mentioned here visit **Microchip's purchasing portal**.

Resources

High-res images available through Flickr or editorial contact (feel free to publish):

Application image: **https://www.flickr.com/photos/microchiptechnology/51253893841/**

Block diagram: **https://www.flickr.com/photos/microchiptechnology/51254717324/**

About Microchip Technology
Microchip Technology Inc. is a leading provider of smart, connected and secure embedded control solutions. Its easy-to-use development tools and comprehensive product portfolio enable customers to create optimal designs which reduce risk while lowering total system cost and time to market. The company's solutions serve more than 120,000 customers across the industrial, automotive, consumer, aerospace and defense, communications and computing markets. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at **www.microchip.com**.

Editorial Contact:
Cathy Gedvilas
480-792-4386
Cathy.gedvilas@microchip.com

Reader Inquiries:
1-888-624-7435

Source: Microchip Technology Inc.