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Microchip Introduces Its First Automotive-Qualified 10BASE-T1S Ethernet Devices

The LAN8670/1/2 family of Ethernet PHYs simplifies architecture to connect low-speed devices into a standard Ethernet network

CHANDLER, Ariz., July 13, 2023 (GLOBE NEWSWIRE) -- Automotive designers are looking to replace legacy gateway subsystems with technology that can migrate applications to an Ethernet network to easily access information from the edge to the cloud. To provide OEMs with automotive-qualified Ethernet solutions, Microchip Technology (**Nasdaq: MCHP**) today announces its first automotive-qualified Ethernet PHYs. This family of 10BASE-T1S devices with AEC-Q100 Grade 1 qualification includes the [LAN8670](#), [LAN8671](#) and [LAN8672](#).

The LAN8670/1/2 10BASE-T1S Ethernet PHYs are functional safety ready and designed for use in ISO 26262 applications. These devices now make it possible to connect low-speed devices that previously required their own communication systems into a standard Ethernet system in automotive applications.

“Microchip continues to prioritize connectivity solutions for the automotive industry with the expansion of its line of 10BASE-T1S products,” said Matthias Kaestner, vice president of Microchip’s automotive products business unit. “This new technology will connect the sensors and actuators used in the physical world all the way to the cloud, and it will enable a seamless Ethernet architecture everywhere.”

The ability to connect multiple Ethernet PHYs to a common bus line makes it simpler to implement automotive applications on a single, well-known architecture and saves implementation costs by reducing cabling and switch ports. The LAN8670/1/2 enables the network edges to use Ethernet and Internet Protocol (IP) to easily communicate with the rest of the network infrastructure. These devices include advanced PHY diagnostics to provide the user with troubleshooting capabilities. In addition, sleep/wake functionality allows for low-power modes.

The 10BASE-T1S device specifications include 10 Mbps, half-duplex mode, flexible topology with multidrop bus line and point-to-point and use a single balanced pair of conductors. These devices also feature enhanced electromagnetic compatibility/electromagnetic interference (EMC/EMI) performance. Time-Sensitive Networking (TSN) support allows for synchronized timing across far-reaching Ethernet networks. Time synchronization is critical for many applications throughout automotive zonal architectures.

Microchip was a key contributor in the development of the standards with IEEE for the automotive-qualified 10BASE-T1S technology. This technology simplifies system design by expanding the reach of Ethernet to the devices that are typically at the very edge of the network.

Development Tools

The LAN8670/1/2 10BASE-T1S Ethernet PHYs are supported with the [EVB-LAN8670-RMII](#), [EVB-LAN8670-USB](#) and [MPLAB® Harmony v3](#).

Pricing and Availability

These devices are available to purchase now. Contact a Microchip sales representative, authorized worldwide distributor or go to Microchip's Purchasing and Client Services website, www.microchipDIRECT.com.

Resources

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

- Application image: www.flickr.com/photos/microchiptechnology/52862723786/sizes/l

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 125,000 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.

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