

New Family of Time Sensitive Networking (TSN) Ethernet Switches Provides Industry's First Turnkey Solution for Industrial Automation Networks

Microchip's LAN9668x family of Ethernet switches enables single network architecture and, combined with its new LAN8814 PHYs, reduces system cost and risk for designers while speeding time to market

CHANDLER, Ariz., Jan. 27, 2022 (GLOBE NEWSWIRE) -- Factory automation is increasing efficiencies, from reducing handling and storage to improving throughput. Connected warehouses and other industrial ecosystems with converged Information Technology (IT) and Operational Technology (OT) architectures rely on Time Sensitive Networking (TSN) and Ethernet for precise timing, synchronization and connectivity of devices including cameras, bar code readers, scanners and conveyors. These ecosystems require next-generation network technology to interconnect device, sensor and equipment communication. To meet this requirement, Microchip Technology Inc. (**Nasdaq: MCHP**) today announced the LAN9668 family of TSN switching devices delivering IEEE standards-compliant features in the industry's first switching solution enabling lower latency data traffic flows and greater clock accuracy.

Complementing the [LAN9668x](#) is Microchip's newly released [LAN8814](#) quad-port Gigabit Ethernet Physical Layer (PHY) transceiver.

Microchip's LAN9668-I/9MX and LAN9668-9MX devices are 8-port switches for industrial and commercial applications, respectively, outfitted with Arm® Cortex®-A7 central processing units (CPUs), supporting TSN IEEE standards for communication in industrial settings. These include IEEE 1588v2 and IEEE 802.1AS-2020 for Precision Timing, IEEE 802.1Qci for per-stream filtering and policing, IEEE 802.1Qav and IEEE 802.1Qbv for Traffic Shaping and IEEE 802.1CB for Seamless Redundancy, as well as IEC-62439-2 (Media Redundancy Protocol) and ODVA-DLR and IEC-61158-6-10 for Media Redundancy.

Microchip's Ethernet Switch API (MESA) and PHY API (MEPA) provide designers the freedom and flexibility to develop a comprehensive, user-friendly function library that is operating-system independent. The LAN9668 and LAN8814 scalable TSN chipsets are supported by Microchip's software framework and provide the lowest latency and end-to-end transmission of communication traffic.

The LAN8814 is a new-generation quad-port Gigabit Ethernet PHY that fully supports the latest TSN requirements including IEEE 1588 v2 and frame preemption. Designers using LAN9668 and LAN8814 technology can employ the TSN chipset to achieve timing, stream reservation, protection and management, thereby saving development time and cost.

“While devices and equipment previously required their own communication systems, TSN improves interoperability through connecting data streams to simplify traffic,” said Charles Forni, vice president of Microchip’s USB and networking business unit. “Enabling converged network architectures, this technology allows developers to expand their products into new markets and provide better performance in existing networks.”

In addition to the LAN9668 family and LAN8814 Ethernet PHY, Microchip provides their associated IStaX/SMBStaX and WebStaX network operating systems. This completes the hardware and software journey to arrive at a rapid time to market. These include a reproduceable reference design available as a board design or kit of Microchip parts including TSN switches, Ethernet PHYs, clock devices and oscillators. This integrated solution is compliant to all network standards, simplifying developers’ first designs.

Development Tools

The LAN9668-I/9MX and LAN9668-9MX TSN Ethernet switches are supported by the [VSC6817SDK IStaX Linux Application Software](#), an industrial Ethernet switch software solution supporting Microchip’s managed Ethernet switch devices. The [VSC6817SDK IStaX Linux Network Operating System](#) is an industrial Ethernet switch software solution also supporting Microchip’s managed Ethernet switch devices. The [SMBStaX Linux Network Operating System](#) and [WebStaX Linux Network Operating System](#) are available to commercial designers and follow the long-term support Linux Kernel. These solutions all are highly integrated with advanced L2+ switch features. In addition, reference designs and evaluation boards also are available from Microchip and the company’s distribution partners, enabling easy design-in.

Availability

The LAN9668/9MX is available in volume production in 1,000 quantities starting at \$16.14. The LAN8814/ZMX is available in volume production in 1,000 quantities starting at \$6.43. For additional information or to purchase products mentioned here, contact a Microchip sales representative, authorized worldwide distributor or visit Microchip’s [website](#).

Resources

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

- Application image:
<https://www.flickr.com/photos/microchiptechnology/51815723802/sizes//>

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.

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