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LAN887x Family

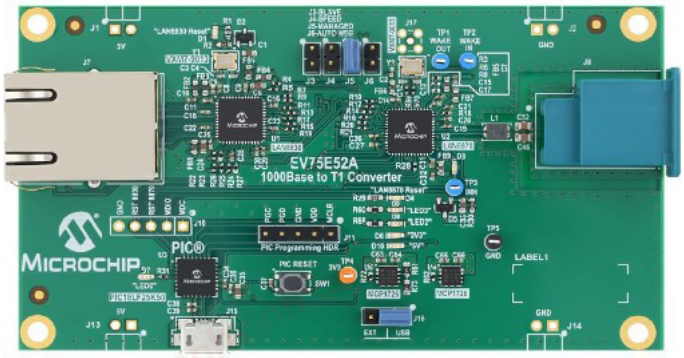
100/1000BASE-T1 Automotive-Qualified Ethernet PHYs

Summary

The LAN887x family provides compact, cost-effective, single-port 100/1000BASE-T1 Ethernet PHY solutions that comply with the IEEE® 802.3bw-2015 and IEEE 802.3bp-2016 specifications. The LAN887x is Time-Sensitive Networking (TSN) ready, supporting IEEE 802.1AS-2020 and IEEE1588-2019 Precision Clock Synchronization Protocol for real-time Ethernet networking. Variable I/O and core power supply voltages with flexPWR® technology provide flexible design options and additional power saving opportunities. The LAN887X product family is available in both automotive and industrial temperature ranges, enabling utilization in a variety of solutions.



EV39G24A Evaluation Board



Key Features

- Support for RGMII and SGMII MAC interfaces
- 1000BASE-T1 Type B support for extended cable reach (LAN8870B only)
- IEEE 1588-2019 and 802.1AS-2020 support
- 100 Mbps/1000 Mbps auto-negotiation and force speed mode
- 25 MHz, 50 MHz and 125 MHz reference clock output
- OPEN Alliance TC10 support/wake-up support
- Microchip functional safety ready
- AEC-Q100 automotive product qualification
- Automotive and industrial temperature ranges available
- 48-pin (7 × 7 mm) wettable VQFN package

EVB-LAN8870-MC (EV39G24A)

The EVB-LAN8870-MC Evaluation Board is a Single-Pair Ethernet (SPE)-to-Gigabit Ethernet media converter used in evaluating the LAN8870 1000BASE-T1 Ethernet transceiver.

EVB-LAN8870-RGMII (EV75E52A)

The EVB-LAN8870-RGMII is a plug-in card that interfaces directly with a Microchip host processer control board. Together with either the EVB-LAN7801-EDS or the EVB-LAN7431-EDS, the EVB-LAN8870-RGMII provides a highly flexible platform for evaluation of basic PHY features.

Common Applications

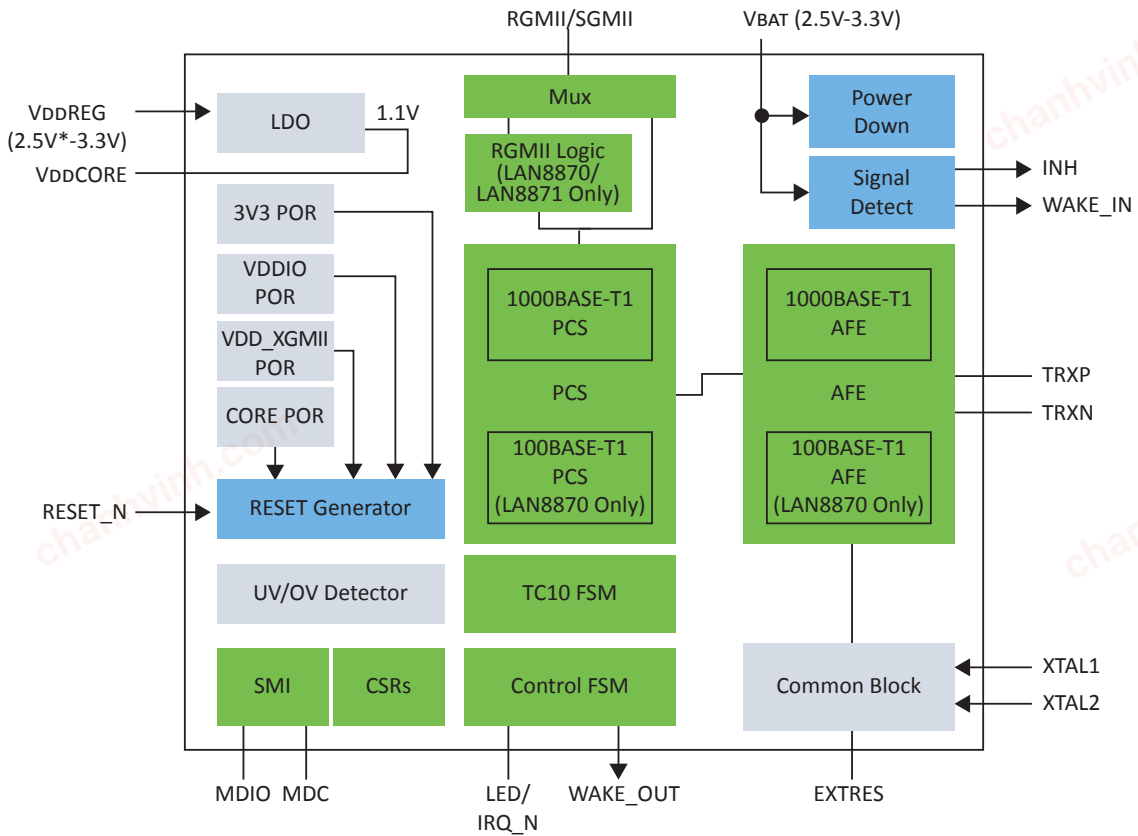
- Industrial automation
- IIoT
- Automated Driver-Assistance Systems (ADAS)
- Infotainment
- Telematics
- In-vehicle networking

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Family Product Selection Table

Part Number	100BASE-T1	1000BASE-T1	SGMII	RGMII	Extended Reach	Package
LAN8870	✓	✓	✓	✓		48-VQFN
LAN8870B	✓	✓	✓	✓	✓	48-VQFN
LAN8871		✓		✓		48-VQFN
LAN8872		✓	✓			48-VQFN

LAN887x Internal Block Diagram



*only 2.5V at Automotive Grade 2 if using internal core voltage regulator.

For more information about the LAN887x family of products, visit: https://www.microchip.com/en-us/product/LAN8870

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