

LAN9645x/F/S Product Family

5/7/9-Port Gigabit Ethernet Unmanaged Switch with Managed Mode



Summary

Microchip's LAN9645x/F/S is a family of compact and cost-effective nine, seven, and five port Gigabit Ethernet Switches with integrated 10/100/1000BASE-T PHYs, with TSN, AVB and Redundancy managed modes. This family of devices can be operated in a stand-alone unmanaged system configuration or managed mode with full Linux DSA support on a connected host. These devices address a broad range of applications and markets such as Industrial Ethernet, Smart home, Smart grid, and Aerospace and Defense.

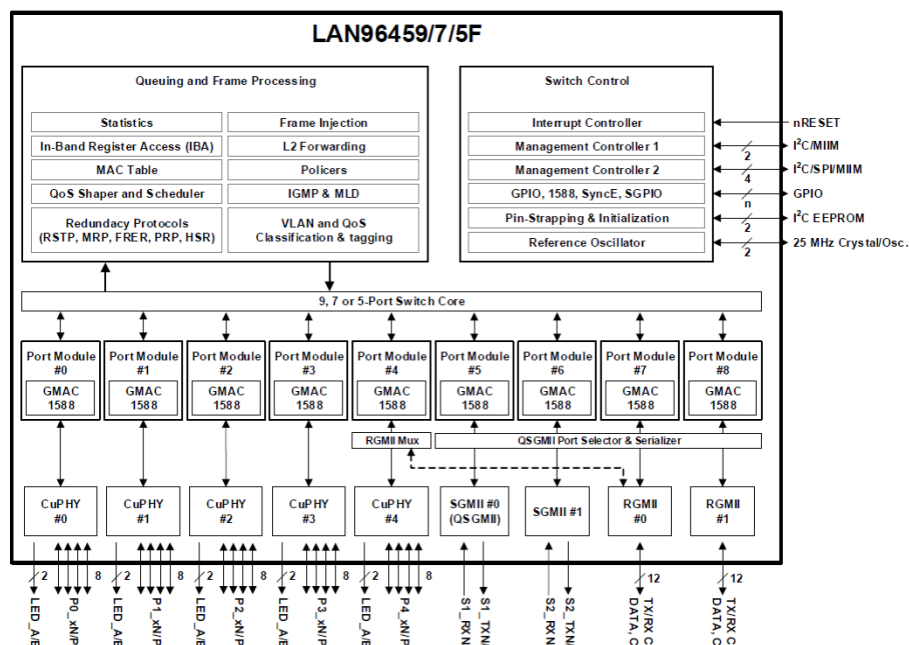
Key Features

- 5, 7, or 9-Port Gigabit Unmanaged Ethernet Switch with optional Managed mode
- 5x integrated 10/100/1000BASE-T PHYs with LED driver outputs
- Support for 2x RMII/RGMII, 2x SGMII/SGMII+, 1x Quad-SGMII interfaces
- Support for external PHY and SFP modules
- Flexible configuration options
 - Pin strapping and EEPROM for unmanaged operation
 - Linux DSA with SPI, I²C, MIIM, and in-band (VRAP) interface options for managed
- 128-pin TQFP (14 × 14 mm) or 156-pin VQFN-DR (12 × 12 mm) package
- Industrial temperature range support (-40°C to +85°C) for select configurations

Common Applications

- Industrial control and Process Automation
- Real-time Ethernet networks
- Network test and measurement equipment
- Telematics and Smart Antennas
- Profinet and Security Camera (CCTV) switches
- Media Conversion - Optical and Single Pair Ethernet (SPE)
- Aerospace and Defense

LAN9645x/F/S Block Diagram



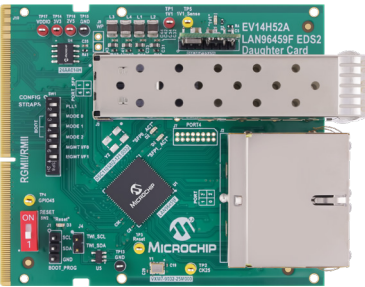
Family Product Selection Table

Part Number	Port Count	TSN/AVB	HSR/PRP	RGMII	SGMII/SGMII /QSGMII	Package
LAN96459S	9			✓	✓	128 TQFP (14 × 14 mm) or 156 VQFN-DR (12 × 12 mm)
LAN96459F	9	✓	✓	✓	✓	128 TQFP (14 × 14 mm) or 156 VQFN-DR (12 × 12 mm)
LAN96457S	7			✓	✓	128 TQFP (14 × 14 mm) or 156 VQFN-DR (12 × 12 mm)
LAN96457F	7	✓	✓	✓	✓	128 TQFP (14 × 14 mm) or 156 VQFN-DR (12 × 12 mm)
LAN96455S	5			✓	✓	128 TQFP (14 × 14 mm) or 156 VQFN-DR (12 × 12 mm)
LAN96455F	5	✓	✓	✓	✓	128 TQFP (14 × 14 mm) or 156 VQFN-DR (12 × 12 mm)

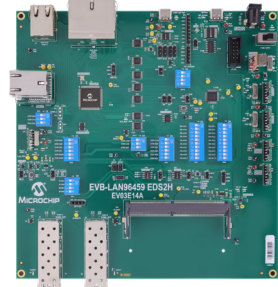
Evaluation Boards

The LAN9645xF and LAN9645xS switches are supported by the LAN96459 EDS2 Daughter Card (EV14H52A) for use with a compatible host Curiosity EVB, and by the stand-alone LAN96459 Unmanaged Base Board (EV03E14A) for unmanaged demonstrations. The LAN96459 EDS2 Daughter Card, when used with a host Curiosity Platform, leverages the Linux® Distributed Switch Architecture (DSA) software.

LAN96459 EDS2 Daughter Card (EV14H52A)



LAN96459 Unmanaged Base Board (EV03E14A)



For more information about the LAN9645xF/S family of products, visit:

<https://www.microchip.com/en-us/product/LAN96455>

<https://www.microchip.com/en-us/product/LAN96457>

<https://www.microchip.com/en-us/product/LAN96459>

