

VSC7512

10-Port Layer-2 Gigabit Ethernet Switch

Microsemi's industrial Ethernet switch device delivers the industry's lowest power Gigabit Ethernet (GbE) switching solution.

The VSC7512 is a fully-integrated 10-port GbE switch with four copper PHYs in a single package.

The VSC7512 leverages Microsemi's SimpliPHY™ technology, resulting in the one of the most cost-effective and lowest power consumption devices in the industry. The single-chip solution utilizes the most advanced Energy Efficient Ethernet features for bringing low-power, high-performance solutions to market.

The VSC7512 provides a rich set of unmanaged Ethernet switching features such as Layer-2 forwarding with basic VLAN and QoS processing, enabling the delivery of differentiated services. The VSC7512 contains an 8051 CPU for configuration of the switch.

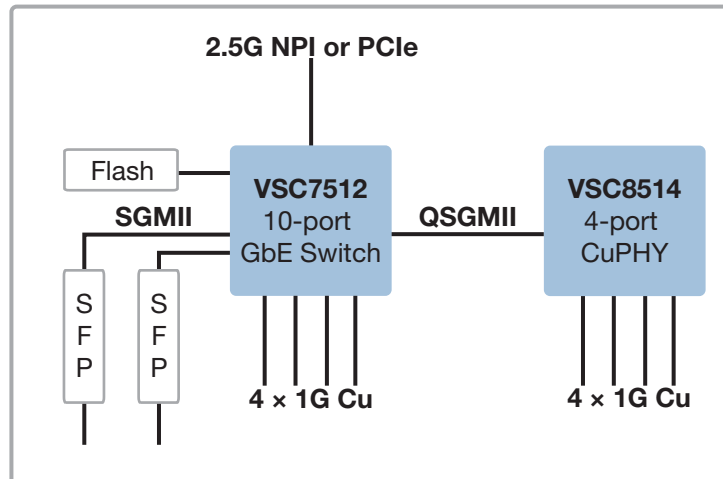
A comprehensive application software package is provided for LED control, loop indication, device overheat protection, and other enhanced functions.

Highlights

- Low-power and single-chip industrial switch
- Four integrated copper PHY ports
- 2.5G SGMII NPI port or PCIe

Applications

- Industrial Ethernet switches
- SME and SMB switches
- Customer-premise Equipment (CPE) and Network Termination Equipment (NTE)



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Best-In-Class Power Consumption

- Single IC reduces overall power requirements
- Optimal power consumption for all link speeds

Features

- 4 integrated copper PHY ports
- 2 x 1G SGMII ports
- 2 x 2.5G SGMII ports (one port configurable as QSGMII)
- Integrated 250 MHz 8051 CPU with 64 KB internal storage
- PCIe and NPI for external CPU register access
- Device overheat protection
- Hardware loop detection
- Integrated fan controller
- 4K MAC addresses and 4K VLAN support

Layer 2 Switching

- 10-port GbE switch with nonblocking wire-speed performance
- Link aggregation (IEEE 802.3ad) with programmable traffic distribution based on Layer 2 through Layer 4 information
- Wire-speed hardware-based learning and CPU-based learning configurable per port
- Independent and shared VLAN learning
- Jumbo frame support up to 12.2 KB with per-port programmable MTU
- Q-in-Q tagging support
- 1.75 Mb of integrated shared packet memory

QoS

- Eight QoS queues per port with strict or deficit-weighted round robin scheduling
- QoS classification based on IEEE 802.1p and IPv4/IPv6 DSCP
- Data rate shaper and policer per-queue, per-port for both ingress and egress directions
- Full-duplex flow control (IEEE 802.3x) and half-duplex back-pressure, symmetric and asymmetric
- Multicast and broadcast storm control with flooding control

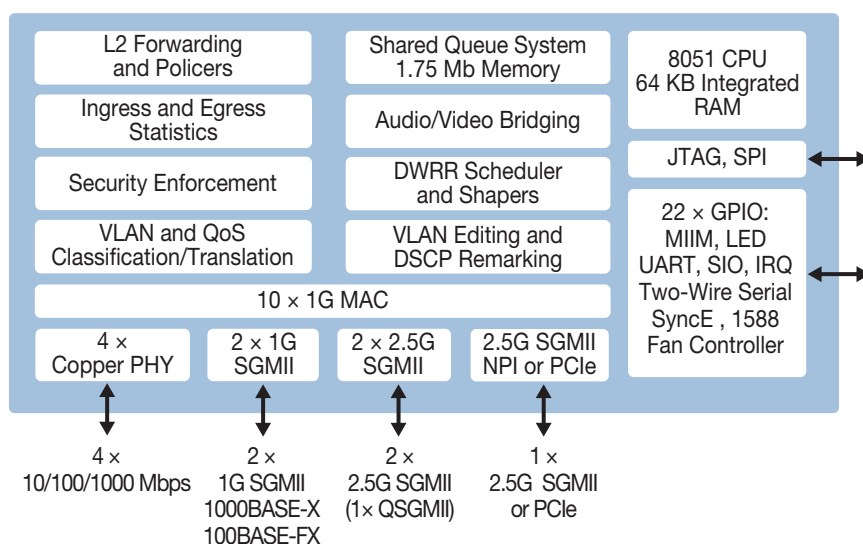
Key Specifications

- 13 mm × 13 mm DRQFN package
- -40 °C to 125 °C temperature range

Related Products

Visit www.microsemi.com for information about these related products:

- Ethernet switches
- 1G copper PHYs



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