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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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VSC7422-04

25-Port Layer 2 Gigabit Ethernet Switch with 12 Fully Integrated Copper PHYs

Microsemi's next-generation switch device delivers the industry's lowest power GbE switching solution.

The VSC7422-04 is the industry's first fully integrated 25-port Gigabit Ethernet switch with 12 copper PHYs in a single package. In conjunction with Microsemi's 12-port VSC8512-03 or VSC8522-04, a 25-port switch can be designed using only two ICs.

The VSC7422-04 leverages Microsemi's 65 nm technology, resulting in one of the most cost-effective and lowest power consumption solutions in the industry. It includes the most advanced Ethernet energy efficiency features for bringing green technology solutions to market.

A rich set of Ethernet switching features, such as Layer 2 forwarding with VLAN and QoS processing, enables the delivery of differentiated services. The VSC7422-04 device contains an 8051 CPU for light management of the switch.

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

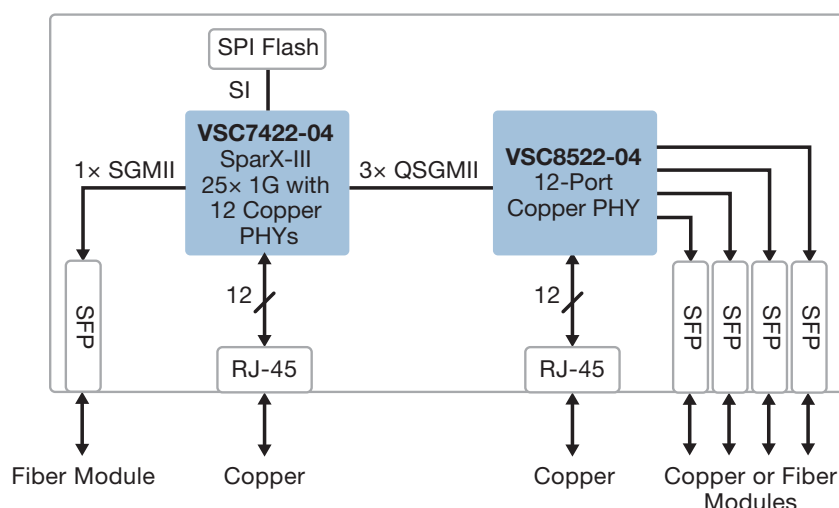
Highlights

- Supports IEEE 802.3az and green energy efficiency modes with ActiPHY™ and PerfectReach™
- Lowest BOM solution requires only one IC
- Three QSGMII MAC interface and one SGMII ports with 100 Mbps and 1 Gbps fiber support

Applications

- Unmanaged and Lightly Managed Ethernet switches
- Industrial switches and routers
- Customer premises equipment (CPE) and outdoor equipment
- VPN, firewall, and UTM appliances

VSC7422-04 in a 25-Port 1-Gigabit Industrial Switch Application



VSC7422-04

25-Port Layer 2 Gigabit Ethernet Switch with 12 Fully Integrated Copper PHYs

Best-in-Class Power Consumption

- Lowest power 25-port Gigabit Ethernet switch available in the market
- Green energy efficiency modes including ActiPHY™, Perfect-Reach™, and Draft IEEE 802.3az
- Two ICs reduce overall power requirements
- Optimal power consumption for all link speeds

Features

- Twelve integrated IEEE 802.3ab-compliant 10/100/1000BASE-T Ethernet copper transceivers with VeriPHY™ cable diagnostics
- 12 × CuPHY + 3× QGMII + 1 × 1G/2.5G SGMII
- Integrated 250 MHz 8051 CPU with 64 KB internal storage
- Serial interface for external CPU register access
- Device overheat protection
- Hardware loop detection
- Integrated fan controller
- 8 K MAC addresses and 4 K VLAN support
- Push/pop VLAN tag
- Supports IEEE 1149.1 JTAG boundary scan, IEEE 1149.6 JTAG, 1 Gbps SGMII, and 100BASE-FX and 1000BASE-X

Layer 2 Switching

- 25-port Gigabit Ethernet 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 kilobytes with per-port programmable MTU
- Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
- 4 megabits 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

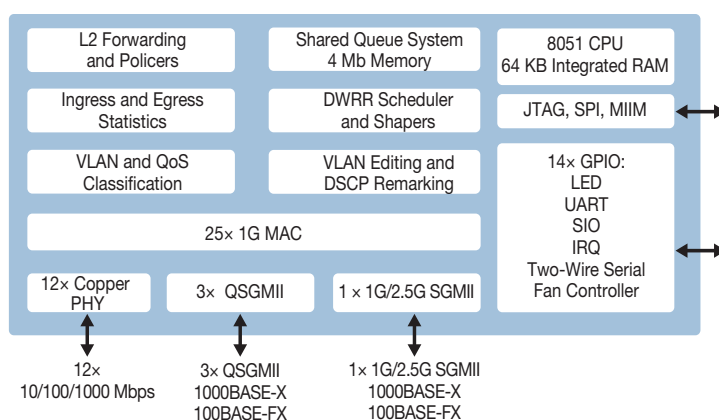
Key Specifications

- 1 V core power supply
- 2.5 V I/O power supplies
- 24 mm × 24 mm thin QFP 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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