

VSC7420

10-Port, Layer-2 Gigabit Ethernet Switch with 8 Fully Integrated Copper PHYs

The VSC7420 is the industry's first fully integrated 10-port GbE switch with eight copper PHYs in a single package.

The device 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 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.

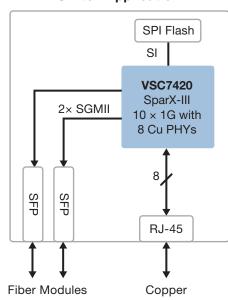
Highlights

- Supports IEEE 802.3az and green energy efficiency modes with ActiPHYTM and PerfectReachTM
- Lowest BOM solution requires only one IC
- Up to two SGMII ports with 100 Mbps and 1 Gbps fiber support

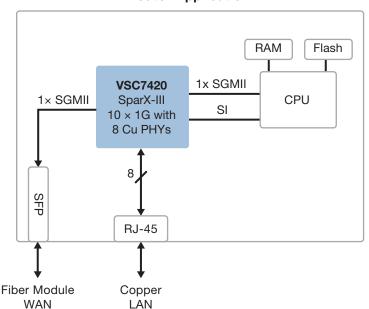
Applications

- Unmanaged and lightly managed Ethernet switches
- Customer premises equipment (CPE)
- VPN, firewall, and UTM appliances

VSC7420 in a 10-Port 1-GbE Switch Application



VSC7420 in a 9-Port 1-GbE Router Application



Microsemi makes no warranty, representation, or guarantee regarding the information contained herein or the suitability of its products and services for any particular purpose, nor does Microsemi assume any liability whatsoever arising out of the application or use of any product or circuit. The products sold hereunder and any other products sold by Microsemi have been subject to limited testing and should not be used in conjunction with mission-critical equipment or applications. Any performance specifications are believed to be reliable but are not verified, and Buyer must conduct and complete all performance and other testing of the products, alone and together with, or installed in, any end-products. Buyer shall not rely on any data and performance specifications or parameters provided by Microsemi. It is the Buyer's responsibility to independently determine suitability of any products and to test and verify the same. The information provided by Microsemi hereunder is provided "as is, where is" and with all faults, and the entire risk associated with such information is entirely with the Buyer. Microsemi does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other IP rights, whether with regard to such information is entirely by information. Information provided in this document is proprietary to Microsemi, and Microsemi reserves the right to make any changes to the information in this document or to any products and services at any time without notice.



VSC7420

10-Port, Layer-2 Gigabit Ethernet Switch with 8 Fully Integrated Copper PHYs

Best-in-Class Power Consumption

- Lowest power 10-port Gigabit Ethernet switch available in the market
- Green energy efficiency modes including ActiPHY $^{\text{TM}}$, PerfectReach $^{\text{TM}}$, and draft IEEE 802.3az
- Single IC reduces overall power requirements
- Optimal power consumption for all link speeds

Features

- Eight integrated IEEE 802.3ab-compliant 10/100/1000BASE-T Ethernet copper transceivers with VeriPHY[™] cable diagnostics
- Two SGMII MAC interfaces
- 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
- 8K MAC addresses and 4K VLAN support
- Supports IEEE 1149.1 JTAG boundary scan, IEEE 1149.6 AC-JTAG, 1 Gbps SGMII, and 100BASE-FX and 1000BASE-X

Layer-2 Switching

- 10-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
- Q-in-Q tagging support
- 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 backpressure, symmetric and asymmetric
- Multicast and broadcast storm control with flooding control

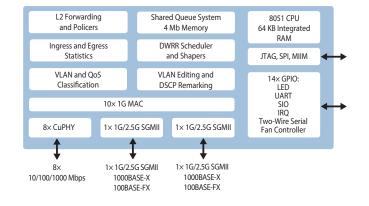
Key Specifications

- 1 V core power supply
- 2.5 V I/O power supplies

Related Microsemi Products

Visit <u>www.microsemi.com</u> for information about these related Microsemi products:

- Ethernet switches
- 1G copper PHYs





Microsemi Corporate Headquarters

One Enterprise, Aliso Viejo, CA 92656 USA Within the USA: +1 (800) 713-4113 Outside the USA: +1 (949) 380-6100 Fax: +1 (949) 215-4996 Email: sales.support@microsemi.com www.microsemi.com

Microsemi Corporation (Nasdaq: MSCC) offers a comprehensive portfolio of semiconductor and system solutions for aerospace & defense, communications, data center and industrial markets. Products include high-performance and radiation-hardened analog mixed-signal integrated circuits, FPGAs, SoCs and ASICs; power management products; timing and synchronization devices and precise time solutions, setting the world's standard for time; voice processing devices; RF solutions; discrete components; enterprise storage and communication solutions, security technologies and scalable anti-tamper products; Ethernet solutions; Power-over-Ethernet ICs and midspans; as well as custom design capabilities and services. Microsemi is headquartered in Aliso Viejo, California and has approximately 4,800 employees globally. Learn more at www.microsemi.com.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Ethernet ICs category:

Click to view products by Microchip manufacturer:

Other Similar products are found below:

EZFM6324A S LKA5 EZFM6364A S LKA7 12200BS23MM SBL2ECHIP-236IR EZFM5224A S LKA3 VSC8522XJQ-02 WGI219LM SLKJ3 EZFM6348A S LKA6 JL82599ES S R1VN WGI219V SLKJ5 BCM84793A1KFSBG BCM56680B1KFSBLG BCM56960B1KFSBG BCM56842A1KFTBG BCM56450B1KFSBG EZX557AT S LKW4 ELX550AT2 S LL2E ELX550AT S LLFT KTI225IT S LNNK KTI225IT S LNNL BCM56864A1IFSBG WGI219LM SLKJ2 KSZ8462FHLI KSZ8081RNDIA-TR 78Q2123R/F LAN91C111I-NS LAN91C111-NS 78Q2133/F KSZ8841-16MVLI KSZ8842-PMQLI KSZ8893MQLI KSZ8993ML KSZ8995M KSZ9021GN BCM84848A1KFSBG VSC7426XJG-02 SJA1105ELY VSC8530XMW-04 X550T2BLK X550T2 KSZ8091MNXCA KSZ8842-16MVLI KSZ8893MQL VSC8244XHG VSC8211XVW W6100-L W6100-Q EGLXT973QCA3V-873178 LAN8810-AKZE PPH