

VSC7414

11-Port Layer-2 SGMII Gigabit Ethernet Enterprise Switch with VeriTime™

Microsemi's newest member of the SparX-III switch family delivers a low-power solution for Enterprise routing, industrial switching solutions, and Audio Video Bridging (AVB).

VSC7414 contains nine 10/100/1000 Mbps SGMII/SerDes ports and two 1G/2.5G SGMII/SerDes ports. All ports support both 100BASE-FX and 1000BASE-X SerDes. VSC7414 provides a rich set of Ethernet switching features such as Layer-2 forwarding with advanced TCAM-based VLAN and QoS processing enabling delivery of differentiated services.

For critical network timing applications, VSC7414 uses VeriTime™, Microsemi's patent-pending distributed timing technology that delivers the industry's most accurate IEEE 1588v2 timing implementation.

Security is assured through frame processing using a TCAM-based Versatile Content Aware Processor (VCAP).

VSC7414 includes an embedded 416 MHz MIPS processor 32-bit CPU with DDR2/DDR3 external memory.

A comprehensive application programming interface (API) and software package are provided. The software package integrates easily with third-party software, preserving existing software investments while adding new, enhanced functionality.

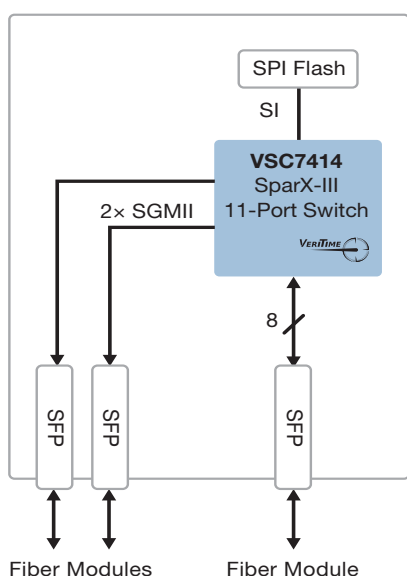
Highlights

- Best-in-class power and small footprint 11-port SGMII switch
- All ports provide direct connectivity to 1 Gbps and 100 Mbps optical modules supporting industrial temperature range
- Audio Video Bridging (AVB) with support for time-synchronized, low-latency audio video streaming services
- Priority-based, full-duplex flow control (IEEE 802.1Qbb)
- Integrated timing: VeriTime™, SyncE

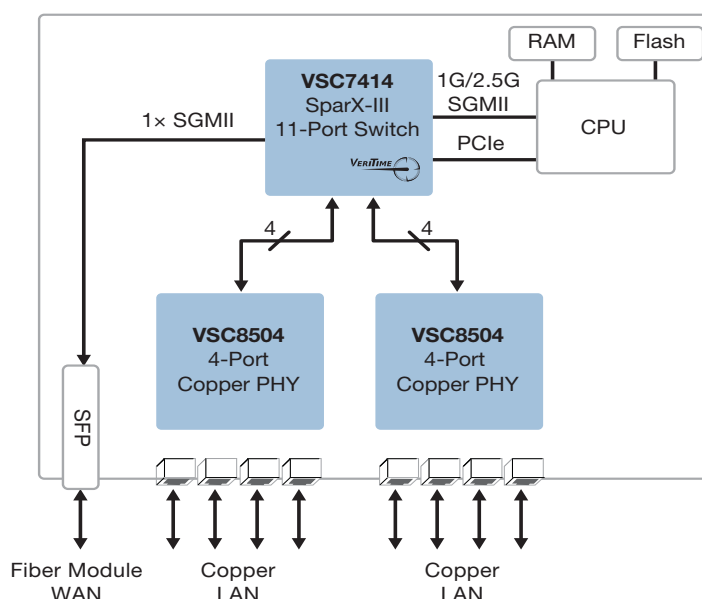
Applications

- Enterprise routing
- Industrial switching
- Audio Video Bridging (AVB)

10-Port 1 GbE Switch Application



9-Port 1 GbE UTM/Router Application



VSC7414

11-Port Layer-2 SGMII Gigabit Ethernet Enterprise Switch with VeriTime™

Layer 2 Switching

- IEEE 802.1Q VLAN switch with 8K MACs and 4K VLANs
- Exceptional low power consumption
- Fully nonblocking wire-speed switching performance for all frame sizes
- Push/pop up to two VLAN tags
- IPv4/IPv6 multicast
- RSTP and MSTP support
- Link aggregation (IEEE 802.3ad)
- Independent and shared VLAN learning (IVL, SVL)
- Jumbo frame support
- Wire-speed hardware-based learning and CPU-based learning configurable per port

QoS Features

- Policing with storm control and MC/BC protection
- Advanced security and prioritization available through a multi-stage TCAM engine
- More than 8 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

- Priority-based full-duplex flow control (IEEE 802.1Qbb)
- Dual leaky bucket policers with remarking
- L1 Synchronous Ethernet

VeriTime™ Features

- L2 IEEE 1588v2
- Boundary clock and transparent clock

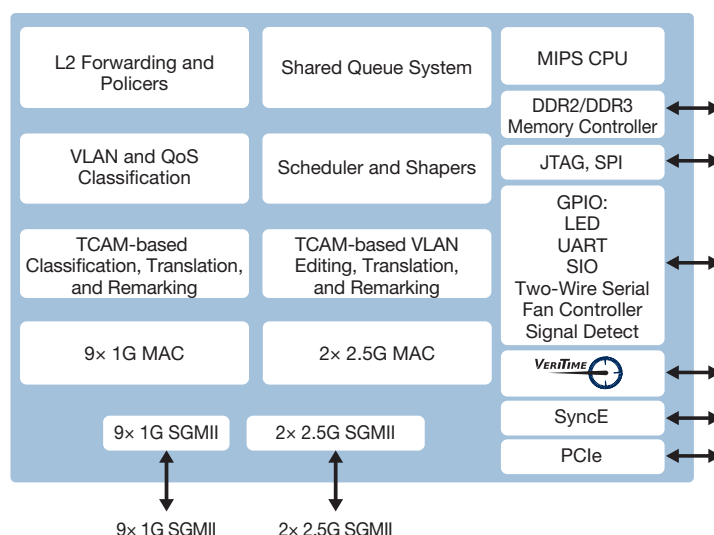
Key Specifications

- 24 mm × 24 mm thermally enhanced TQFP package
- 1.6 W typical power dissipation
- Operating temperature –40 °C to 125 °C

Related Products

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

- VSC7420-01 and VSC7424-01 10-Port Gigabit Ethernet Switches with Integrated Copper PHYs
- VSC7428-01 11-Port Layer 2 Gigabit Ethernet Switch with 8 Integrated Copper PHYs, Embedded CPU, and VeriTime™
- VSC8604 Quad-Port 10/100/1000BASE-T PHY with Synchronous Ethernet and QSGMII/SGMII MAC
- VSC8664 Quad Port 10/100/1000BASE-T PHY and 100BASE-FX/1000BASE-X SerDes with I2C Mux and Recovered Clock Outputs



Microsemi

Microsemi Corporate Headquarters
 One Enterprise, Aliso Viejo, CA 92656 USA
 Within the USA: +1 (800) 713-4113
 Outside the USA: +1 (949) 380-6100
 Sales: +1 (949) 380-6136
 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 communications, defense and security, aerospace, 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; voice processing devices; RF solutions; discrete components; enterprise storage and communications solutions, security technologies, and scalable anti-tamper products; Ethernet solutions; Power-over-Ethernet ICs and midspans; custom design capabilities and services. Microsemi is headquartered in Aliso Viejo, California, and has approximately 4,800 employees worldwide. Learn more at www.microsemi.com.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Microsemi:](#)

[VSC7414XKT-01](#)