

# 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.

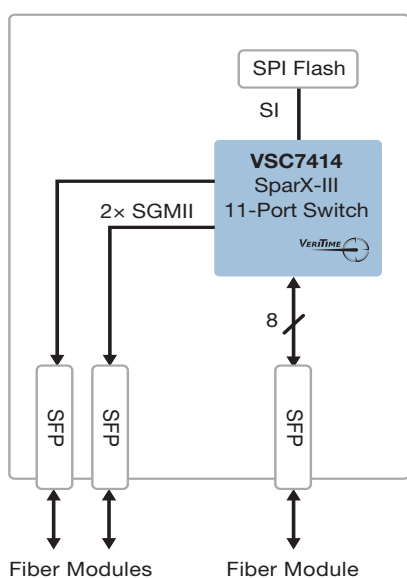
### Highlights

- 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

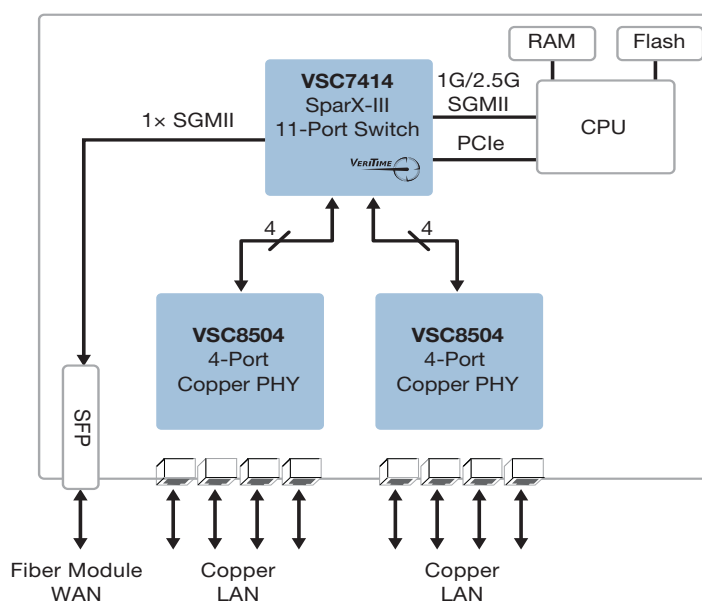
### Applications

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

**10-Port 1 GbE Switch Application**



**9-Port 1 GbE UTM/Router Application**



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 itself or anything described by such 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.

# 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

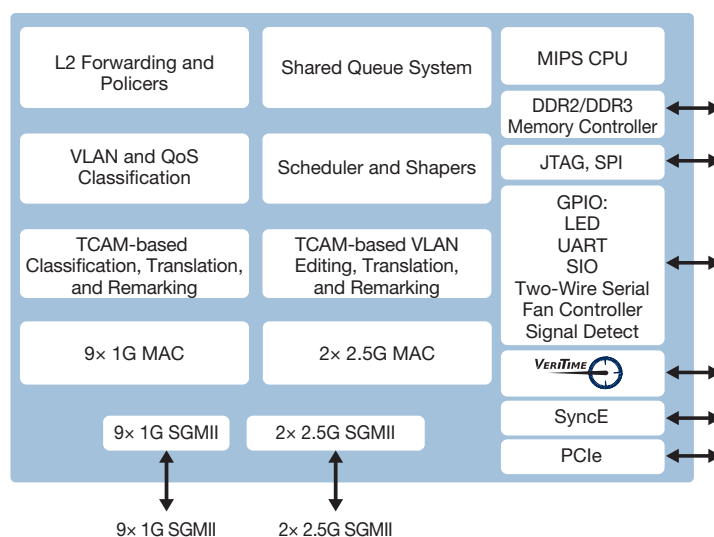
### Key Specifications

- 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](http://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](mailto:sales.support@microsemi.com)  
[www.microsemi.com](http://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](http://www.microsemi.com).

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А