

VSC8211

Single Port 10/100/1000BASE-T PHY and 1000BASE-X PHY with SGMII, SerDes, GMII, MII, TBI, RGMII / RTBI MAC Interfaces

The VSC8211 is ideal for Media Converter and 100BASE-FX applications. Its low power consumption and patented line driver technology reduce the cost and complexity of Gigabit Ethernet system designs.

The VSC8211's integrated 1.25 Gbps SerDes and Auto-Media Sense[™] feature allow system designers to support Category 5 twisted pair, fiber optic, and backplane interfaces from a single device.

Microsemi's mixed signal and DSP architecture yields robust performance, supporting both full and half duplex 10BASE-T, 100BASE-TX, and 1000BASE-T over >140m of Category 5, unshielded twisted pair (UTP) cable, with industry leading tolerance to NEXT, FEXT, Echo, and system noise.

Applications

- Media converters
- Dual media switch ports
- iSCSI and TOE LOM
- Triple speed copper GBIC/SFP modules
- 100BASE-FX switch ports and modules
- Backplanes

Specifications

- Steady state power consumption (1000BASE-T) including SerDes
- Power consumption in ActiPHY[™] low power state
- Cable link length supported in 1000BASE-T & 100BASE-TX modes, over Category 5 cable
- Cable link length supported in 10BASE-T mode, over Category 3 cable
- SerDes, SGMII interface data rate
- DC power supply voltage range
- Core supply voltage
- Crystal parallel resonant frequency (± 100 ppm tolerance)



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 or grant, explicitly to may part 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 or to any products and services at any time without notice.



VSC8211

Single Port 10/100/1000BASE-T PHY and 1000BASE-X PHY with SGMII, SerDes, GMII, MII, TBI, RGMII / RTBI MAC Interfaces

Features

- Very low power consumption at < 700 mW
- Patented, low EMI line driver with integrated line side termination resistors
- Supports PICMG 2.16 and 3.0 Ethernet backplanes at approximately 500 mW
- Supports Cisco SGMII v 1.7 and 1000BASE-X MACs, RGMII and RTBI v 1.3 & v 2.0 (2.5 V & 3.3 V)
- User-programmable RGMII timing compensation
- High performance 1.25 Gbps SerDes
- Auto-media sense feature detects and configures to support either copper or fiber media
- Compliant with IEEE 802.3 (10BASE-T, 100BASE-TX, 1000BASE-T, 1000BASE-X) and SFP MSA specifications
- Full suite of BIST, MAC, far-end, and connector loopback modes
- Over 150 m of Category 5 reach with industry's highest noise tolerance
- VeriPHY™ cable diagnostics software suite
- Automatic detection and correction of cable pair swaps, pair skew and pair polarity, along with auto MDI/MDI-X crossover function

Benefits

- Reduces power supply costs
- Removes 12 passive components, reducing PCB area and

cost by 50%

- Lowest power mode reduces power supply costs
- Connects to virtually any MAC or optical module and can be used to design copper GBIC/SFP modules and 100BASE-FX modules
- Simplifies PCB layout, eliminating the need for on-board delay lines
- Supports Category 5 copper, fiber optic, and back plane interfaces from a single device
- Single chip solution for flexible media support
- Ensures seamless deployment throughout copper and optical networks with industry's highest tolerance to noise and substandard cabling infrastructures
- Simplifies comprehensive in-system test to ensure the highest product quality
- Ensures trouble-free deployment in real world Ethernet
 networks
- Enables network manufacturers to simplify deployment and improve network management capabilities of Gigabit Ethernet links
- Compatible with 1st generation 1000BASE-T PHYs, minimizing common interoperability problems

Related Products

Visit www.microsemi.com for information about other related products.





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 radiationhardened 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.

©2004–2016 Microsemi Corporation. All rights reserved. Microsemi and the Microsemi logo are registered trademarks of Microsemi Corporation. All other trademarks and service marks are the property of their respective owners.