

VSC7111 11.5 Gbps Quad Signal Conditioner Mux/Demux

Microsemi's best-in-class equalizer delivers the industry's highest performance PCI Express (PCIe) re-driver.

VSC7111 is a high-performance, quad-channel asynchronous buffer that simplifies high-speed signal path designs (up to 11.5 Gbps) by providing Microsemi's industry-proven signal equalization at both the inputs and outputs. The device optimizes energy efficiency with innovative Green modes that lower power consumption at lower data rates. Additional power savings can be achieved by deactivating unused channels and configuring the best output level settings for an application.

The VSC7111 device offers programmable, static, and adaptive equalization settings to provide a comprehensive solution for countering signal degradation over a wide variety of transmission cabling and interconnect transmission paths in broadcast video, telecommunications, storage, and server applications.

VSC7111 is fully compatible with the latest server, interconnect, and storage protocols including PCIe Gen 1/2/3, 10GBASE-KR, and SAS/SATA.

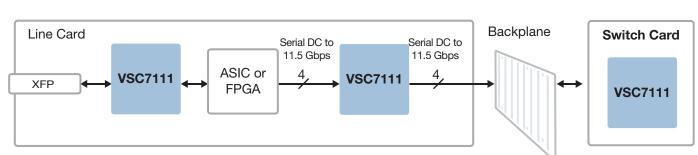
Loss of signal (LOS) detectors with programmable thresholds are included on every input port. Each channel includes PCIe Gen 1/2/3 receive detection and state machines. The VSC7111 can be configured for pass-through 4-channel buffer, dual 2×2 matrix, dual 1:2 duocast, or dual 2:1 selector configurations.

Highlights

- Up to 11.5 Gbps asynchronous operation
- Energy-efficient Green modes
- Adaptive equalization

Applications

- PCIe Gen 1/2 blade servers
- 1.5G, 3G, and 6G SAS/SATA
- High-speed cable equalization



VSC7111 Line Card and Central Switch Card Applications

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 described to grant explicitly to may patt rights, licenses, or any other IP rights, whether with regard to such information itself or anything described by such information provided in this document or to any products and services at any time without notice.



VSC7111 11.5 Gbps Quad Signal Conditioner Mux/Demux

Flexible Architecture

- 0 Gbps to 11.5 Gbps asynchronous operation
- 4-channel buffer, dual 2 × 2 matrix, dual 1:2 duocast, or dual 2:1 selector configurations

Best-in-Class EQ

- Input EQ of 26 dB at 11.5 Gbps
- Transmit pre-emphasis with 15 output levels (maximum 1600 mV differential peak-to-peak)
- Input sensitivity 100 mV differential peak-to-peak

Ultra Low-Power Green Mode

 0.71 W typical power consumption in full power mode (11.5 Gbps) and 0.47 W typical power consumption in Green mode (6.5 Gbps)

Storage and Server Protocols

- PCIe Gen 1/2/3 receive detection and state machines
- SAS/SATA-compatible loss of signal (LOS) detection and outof-band (OOB) forwarding

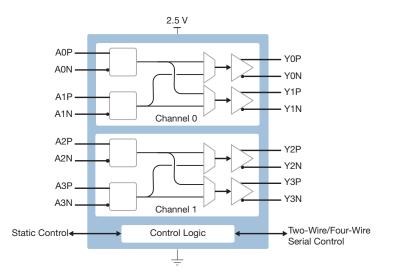
Key Specifications

- 2.5 V power supply
- 180 mW typical power consumption per channel in full-power mode, 140 mW per channel in Green mode
- 32-pin, 5 mm × 5 mm QFN package

Related Products

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

- Crosspoint Switches
- Ethernet Switches





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.

©2010–2016 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.