

VSC7109

3.5 Gbps Quad Signal Conditioner

VSC7109 is a high-performance, quad-channel asynchronous buffer that simplifies high-speed signal path designs (up to 3.5 Gbps) by providing Microsemi’s industry-proven signal equalization at both the inputs and the outputs. The device optimizes energy efficiency with innovative Green modes that lower power consumption. Additional power savings can be achieved by deactivating unused channels and configuring the best output level settings for an application.

The VSC7109 device offers programmable, static, and adaptive equalization settings to provide a comprehensive solution for countering signal degradation over a wide variety of cabling and interconnect transmission paths in server, video, and storage applications.

VSC7109 is fully compatible with the latest server, video, interconnect, and storage protocol data rates including Ethernet, HDMI 1.4, 3G SDI, PCIe Gen 1, and SAS/SATA.

Loss of signal (LOS) detectors with programmable thresholds are included on every input port. Out-of-band (OOB) signal forwarding can be enabled on each output. The VSC7109 can be configured for pass-through 4-channel buffer, dual 2 × 2 matrix, dual 1:2 duocast, or dual 2:1 selector configurations.

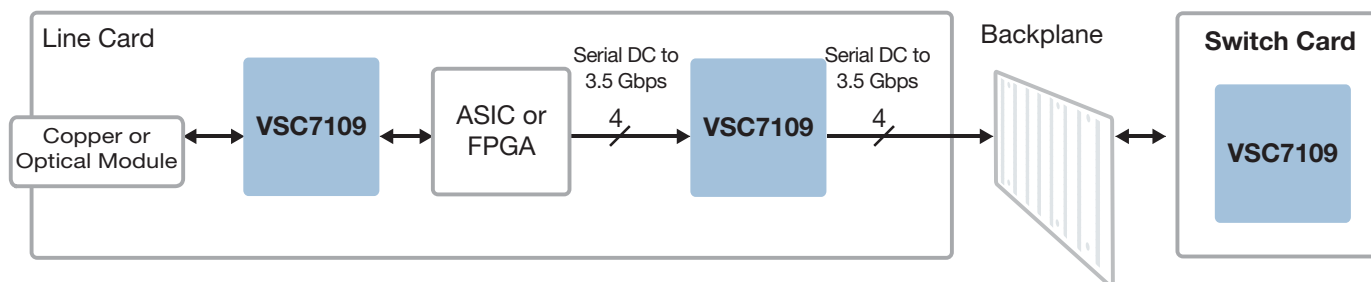
Highlights

- Up to 3.5 Gbps asynchronous operation
- Energy-efficient Green modes
- Adaptive equalization
- Programmable transmit output

Applications

- Blade servers
- Video switches
- Storage interconnect
- High-speed cable and backplane equalization

VSC7109 Line Card and Central Switch Card Applications



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Flexible Architecture

- 0 Gbps to 3.5 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 25 dB at 3.5 Gbps
- 10 dB transmit pre-emphasis with 15 output levels (maximum 1600 mV differential peak-to-peak)
- Input sensitivity 100 mV differential peak-to-peak

Protocols

- Gigabit Ethernet and XAUI Ethernet formats
- HDMI 1.4 and 3G SDI data rate support
- PCIe Gen 1 receive detection and state machine
- SAS/SATA-compatible loss of signal (LOS) detection and out-of-band (OOB) forwarding

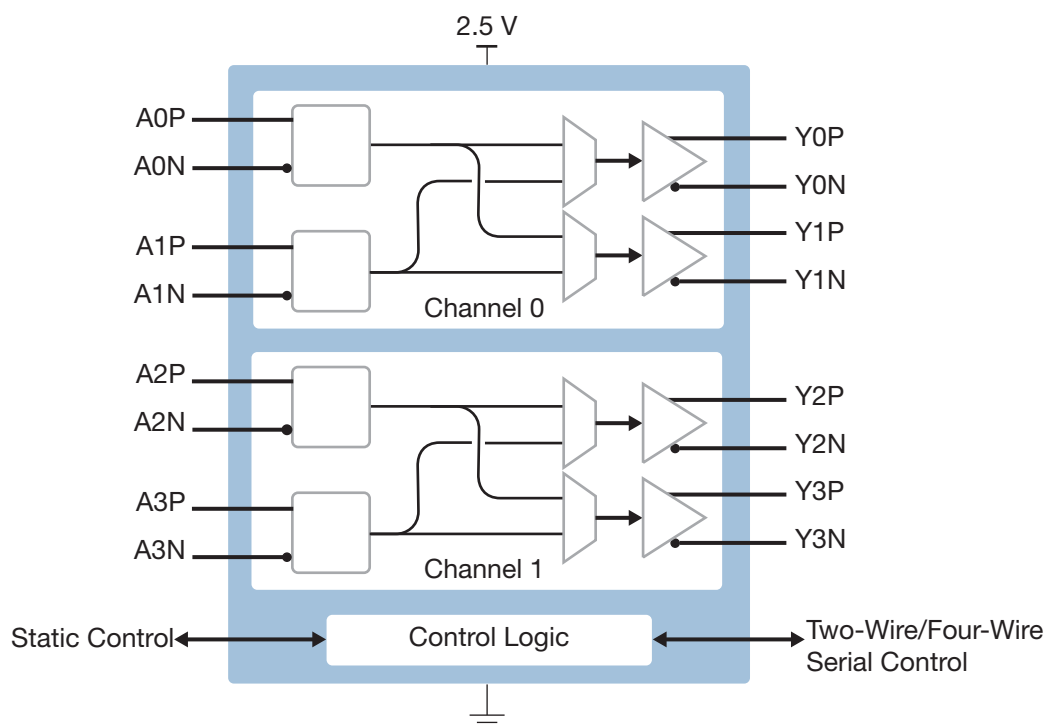
Key Specifications

- 2.5 V power supply
- 118 mW typical power consumption per channel in Green mode
- 32-pin, 5 mm × 5 mm QFN package
- Extended temperature range of -40 °C ambient to 110 °C junction

Related Products

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

- Crosspoint Switches
- Ethernet Switches
- 1G and 10G PHYs



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