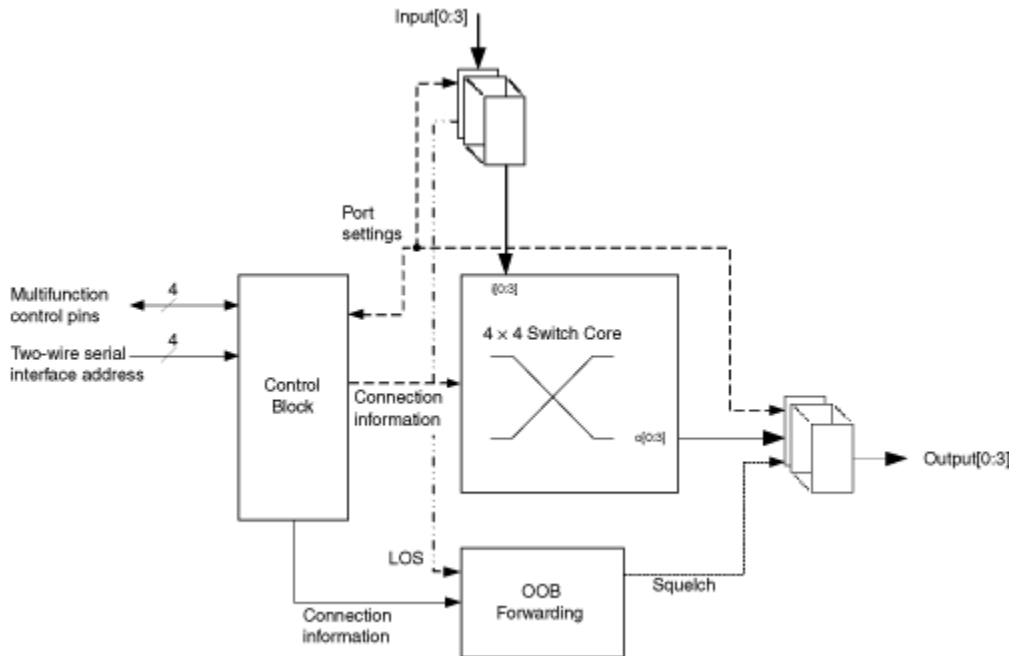




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## 8.5 Gbps 4 x 4 Asynchronous Crosspoint Switch



The VSC3303 is a low-cost, low-power asynchronous crosspoint switch capable of data rates up to 8.5 Gbps. The VSC3303 finds purpose not only as a switch, but also as a buffer that simplifies the design of high-speed signal paths by providing signal equalization at both inputs and outputs to reduce or reverse signal degradation due to transmission line effects. The VSC3303 has a total of eight ports. Four ports are inputs, and four ports are outputs. Featuring programmable input signal equalization and output pre-emphasis (each with multiple time constants), the VSC3303 is also ideal for countering signal degradation over a wide variety of transmission media types and lengths. Typical power consumption for the device is 200 mW per active channel, and unused channels may be deactivated to save the power associated with those ports. Further power savings can be realized by setting the output level settings to the minimum effective value for a specific application. The VSC3303 has a loss of signal (LOS) detector on every input port with programmable thresholds. The LOS status can be directed to either of two status registers. The LOS signal is also switched to each connected output monitored through the high-speed switching core. Out of band (OOB) signal forwarding can be enabled for each of the outputs, which causes the outputs to be squelched in response to an LOS detect at the corresponding input, thereby propagating an OOB envelope through the switch. Programming of the VSC3303 is performed through a two-wire or a four-wire serial interface. The two-wire serial interface address can be hardwired using the three address pins or a proprietary two-wire serial interface that allows for address selection after power-up. Functions such as ResetB and Status states are accessible using the registers to ensure maximum flexibility.

### Key Features















- 8.5 Gbps operation
- Flexible switching options: multicast, loopback, and snoop capability
- Two-wire serial bus

- High-speed four-wire serial programming interface
- Asynchronous operation
- User-programmable input and output signal equalization
- LOS detection and forwarding
- Optional output signal squelch on a per-channel basis

## Applications

- PCB signal enhancement
- Copper cable driver or receiver
- Backplane signal fanout, driver, or receiver
- Line driver or receiver
- Wideband signal switching and cleanup

Product Variants	Description
VSC3303HV	36-pin 7 x 7 mm FCBGA
VSC3303XHV	36-pin 7 x 7 mm FCBGA lead-free second-level interconnect

Category	Title	Access	Revision	Posted	Type	Size
Product Brief	VSC3303 Product Brief		1.0	05/26/2009		749 kB
Datasheet	VSC3303 Datasheet		4.0	03/19/2009		411 kB
Application Note	Migration Path from the VSC3304 to the VSC3303		1.0	05/06/2009		141 kB
Reports	VSC3303HV Material Composition Declaration		1.0	05/20/2009		1 MB
Reports	VSC3303XHV Material Composition Declaration		1.0	04/01/2009		1 MB
Reports	First Level Product Qualification Report for VSC3303HV		1.0	03/19/2009		28 kB
Reports	First Level Product Qualification Report for VSC3303XHV		1.0	03/19/2009		28 kB

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