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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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VSC8564

Quad Port QSGMII/SGMII Dual Media GbE PHY with Intellisec™

The VSC8564 device enables network-wide Layer 2 MACSec encryption with a simple PHY upgrade.

The quad port VSC8564 GbE PHY with Intellisec is ideal for securing cloud network applications such as e-commerce, databases, collaboration, smart grid, video, and enterprise or government communications. In addition, VSC8564 can be added into the design of FIPS 140-2 compliant products for use in a wide variety of markets including (but not limited to) medical, insurance, financial, banking, military, defense, security, retail, industrial, entertainment, and cloud computing.

Intellisec enables a realistic and affordable Layer 2 MACsec security solution. Intellisec is a patented technology enabling IEEE 802.1AE MACsec encryption end-to-end over any network (including multioperator and cloud-based networks), independent of the network's awareness of security protocols. Intellisec is not limited to traditional MACsec link-based box-to-box applications, and scales easily with the number of interfaces (delivering significant cost savings in network deployment), but is still capable of being configured to be 100% backward compatible to currently deployed 128-bit MACsec 802.1AE-2006 compliant solutions. The device also includes dual recovered clock outputs for timing references in Synchronous Ethernet solutions.

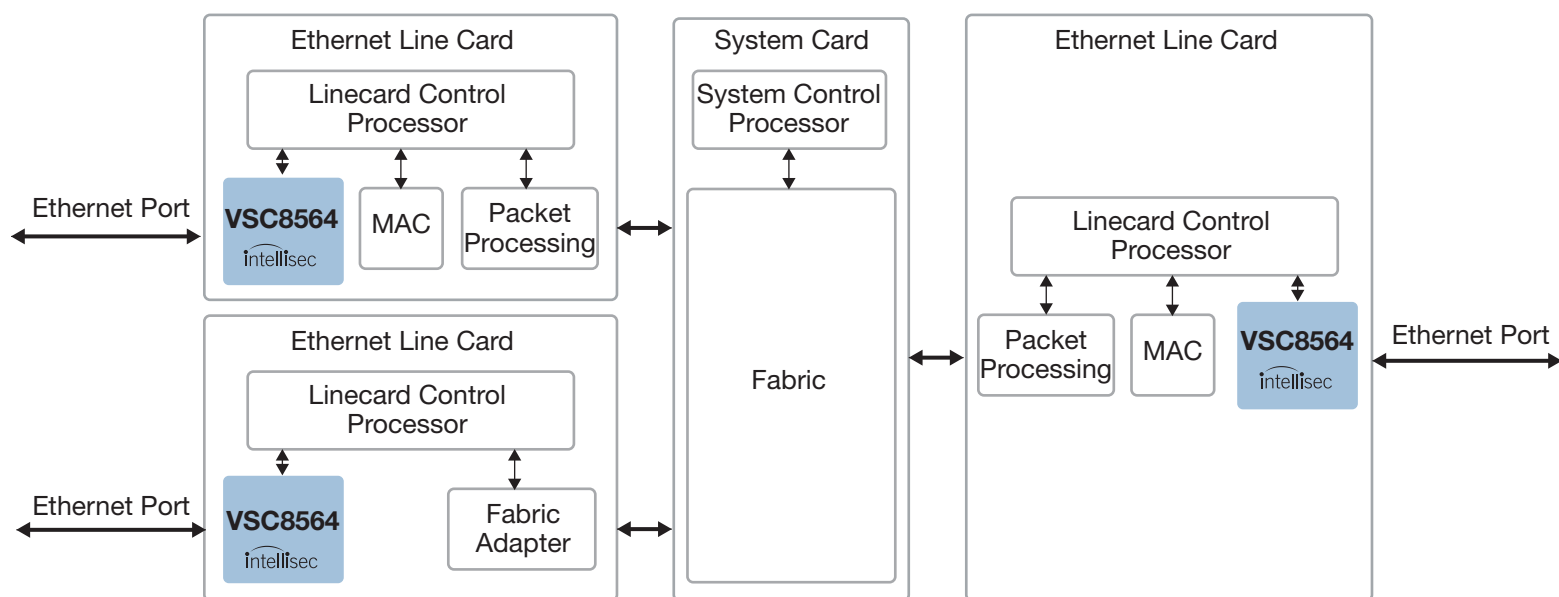
VSC8564 is pin compatible with the 1588v2 PTP-capable VSC8584 device.

Highlights

- Part of the world's first and only NIST FIPS197 128/256-bit MACsec-support family of GbE PHYs
- 802.1AE-2006, 802.1AEbn-2011, and 802.1AEbw-2013 compliant
- Exclusive patented "Tag-in-the-Clear" and "Flow-Based" technologies enable MACsec to work in any IPv4 or IPv6-based network capable of supporting VLANs and/or MPLS
- UNH IOL certified
- EcoEthernet™ 2.0 green technology
- VeriPHY™ cable diagnostics that work concurrently while line is in use

Applications

- FIPS 140-2 compliant designs
- WLAN (Wi-Fi) access points
- Industrial automation systems
- Secure data center to data center interconnects
- HIPPA compliant medical equipment
- Small Cells
- CPE/vCPE (Gateways)



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VSC8564

Quad Port QSGMII/SGMII Dual Media GbE PHY with Intellisec™

Best-in-Class Power Consumption

- Voltage-mode architecture line-drivers with integrated termination resistors
- EcoEthernet 2.0 green energy efficiency modes with ActiPHY automatic link power down, PerfectReach™ intelligent cable algorithm, and IEEE 802.3az (including connection to legacy MACs not supporting IEEE 802.3az)
- Optimized power consumption for all link speeds

Superior PHY and Interface Technology

- Four integrated 10/100/1000BASE-T Ethernet copper transceivers (IEEE 802.3ab compliant) with VeriPHY™ cable diagnostics
- Four dual media copper/fiber ports with unidirectional IEEE 802.3ah support
- SGMII and QSGMII SerDes MAC interface
- Patented line driver with low EMI voltage mode architecture and integrated line-side termination resistors
- HP Auto-MDIX support
- Integrated AC-coupling capacitors for SGMII interface
- Jumbo frame support up to 16 kB with programmable synchronization FIFOs

Advanced Carrier Ethernet Support

- Recovered clock outputs with programmable clock squelch control and fast link failure indication (1.6 ms typical) for G.8261 SyncE applications

- Flexible transmit and receive frequency timing per PHY port
- 1000BASE-T ring resiliency for switching between master/slave timing while maintaining linkup
- Integrated quad I2C MUX to control SFP and PoE modules
- IEEE 802.3bf timing and synchronization support

Key Specifications

- 1.0 V core and 2.5 V I/O power supplies
- 3.3 V-tolerant 2.5 V inputs
- QSGMII v1.3, SGMII v1.9 and IEEE 1149.1 JTAG boundary scan support
- Compliant with IEEE 802.3 (10/100BASE-T, 10BASE-Te, 100BASE-TX, 100BASE-FX, and 1000BASE-X)
- Operating temperature range for VSC8564XKS-11 is 0 °C ambient to 125 °C junction. Operating temperature range for VSC8564XKS-14 is -40 °C ambient to 125 °C junction

Related Products

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

- 1 GbE PHYs
- 10 GbE PHYs

