

VSC8582

Dual-Port 10/100/1000BASE-T, 100/1000BASE-X PHY with Synchronous Ethernet, VeriTime™, Intellisec™, and QSGMII/SGMII MAC

Best-in-Class Power Consumption

- Voltage-mode dual port GbE PHY
- EcoEthernet 2.0 green energy efficiency modes with ActiPHY automatic link power down, PerfectReach™ intelligent cable algorithm, and IEEE 802.3az (including support for legacy MACs not supporting IEEE 802.3az)
- Fully optimized power consumption for all link speeds

Superior PHY and Interface Technology

- Two integrated 10/100/1000BASE-T Ethernet copper transceivers (IEEE 802.3ab compliant) with VeriPHY™ cable diagnostics
- Two 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 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 (typical < 1 ms) for G.8261 SyncE applications

- IEEE 1588v2 timestamp packet correction support
- Flexible transmit and receive frequency timing per PHY port
- 1000BASE-T ring resiliency for switching between master/slave timing while maintaining linkup integrity
- Integrated dual I2C Mux to control SFP and PoE modules
- IEEE 802.3bf timing and synchronization support
- IEEE 802.1ae MACsec with 256/128-bit encryption 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 (10/100 BASE-T, 10BASE-Te, 100BASE-TX, 100BASE-FX, and 1000BASE-X)
- Various SKUs available supporting an operating temperature range from 0 °C ambient to 125 °C junction OR -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

