

VSC8514

Quad Port Gigabit Copper EEE PHY with SyncE and QSGMII MAC-to-PHY Interface

EcoEthernet v2.0 Energy Efficiency

- ActiPHY
- PerfectReach
- IEEE 802.3az Energy Efficient Ethernet
- Integrated LED brightness control
- Fully optimized power consumption for all link speeds
- 10BASE-T_e support according to IEEE 802.3az

Superior PHY and Interface Technology

- Four integrated 10/100/1000BASE-T Ethernet copper transceivers (IEEE 802.3ab-compliant) with VeriPHY™ cable diagnostics
- QSGMII SerDes MAC interface
- Patented line driver with low EMI voltage mode and integrated line side termination resistors
- HP Auto-MDIX support and forced MDI/MDIX option
- Jumbo frame support up to 16 kB with programmable synchronization FIFOs
- IEEE 802.3bf register support provides standardized access to information about data delay between the MDI and xMII interface for a given PHY

Synchronous Ethernet

- Recovered clock outputs with programmable clock squelch control and fast link failure indication (<1 ms) for ITU-T G.8261 SyncE applications
- Ring resiliency feature enables re-configuration of 1000BASE-T master/slave timing for switching between master/slave timing while maintaining linkup integrity

Key Specifications

- 1.0 V and 2.5 V power supplies
- 3.3 V-tolerant 2.5 V inputs (single-ended and bi-directional TTL/CMOS I/Os)
- QSGMII v1.3 and IEEE 1149.1 JTAG boundary scan
- IEEE 802.3 10BASE-T/Te, 100BASE-TX, and 1000BASE-T compliance
- 12 mm x 12 mm, 138-pin multi-row QFN package
- VSC8514 operation temperature: 0 °C to 125 °C
- VSC8514-03 operating temperature: -40 °C to 125 °C

