

VSC8514-11

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

Smallest package footprint quad PHY.

The VSC8514-11 device is a quad port Gigabit Ethernet PHY featuring Microsemi's innovative EcoEthernet™ 2.0 power-saving technologies such as IEEE 802.3az Energy Efficient Ethernet (EEE), ActiPHY™ automatic link power down, and PerfectReach™, an intelligent algorithm that adjusts power based on cable length.

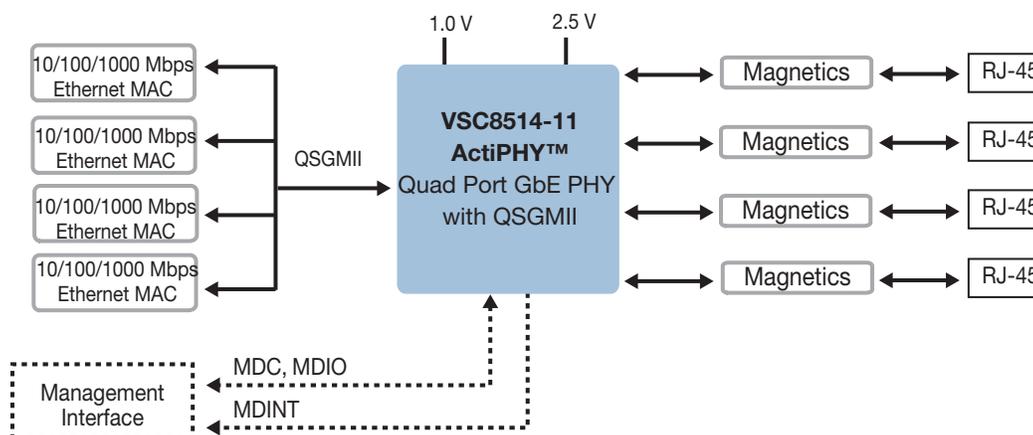
The VSC8514-11 device optimizes power consumption in all link operating speeds. Adjustable LED brightness control further reduces power consumption for end users.

Highlights

- EcoEthernet™ 2.0 with IEEE 802.3az Energy Efficient Ethernet (EEE)
- QSGMII MAC interface

Applications

- Data centers
- Enterprise gateways, switches, and routers
- Home gateways and wireless routers
- Internet of Things (IoT)
- PON MDUs
- Wireless backhaul



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EcoEthernet v2.0 Energy Efficiency

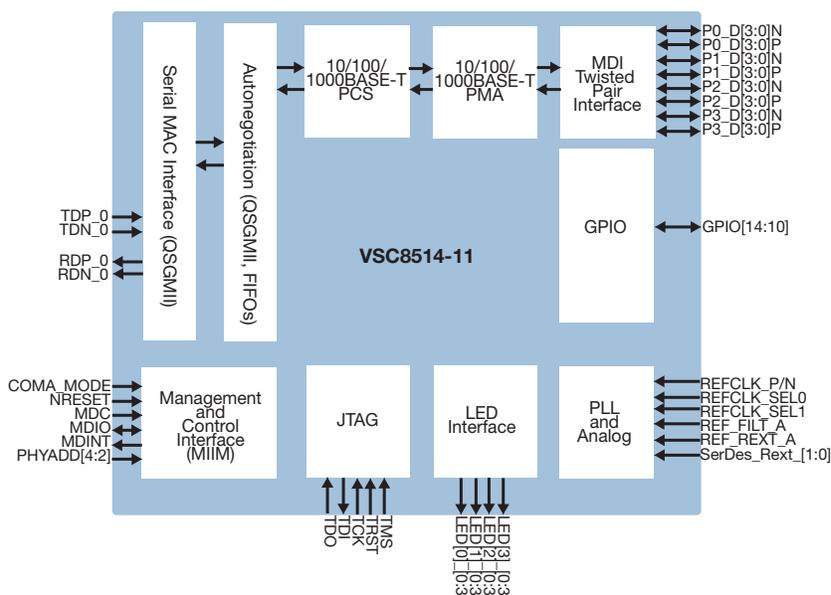
- ActiPHY
- PerfectReach
- IEEE 802.3az Energy Efficient Ethernet
- Integrated LED brightness control
- Fully optimized power consumption for all link speeds
- 10BASE-T_e support according to IEEE 802.3az

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

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_e, 100BASE-TX, and 1000BASE-T compliance
- 12 mm x 12 mm, 138-pin multi-row QFN package
- VSC8514-11 operation temperature: 0 °C to 125 °C
- VSC8514-14 operating temperature: -40 °C to 125 °C



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