

Octal Port 10/100/1000BASE-T and 1000BASE-X PHY

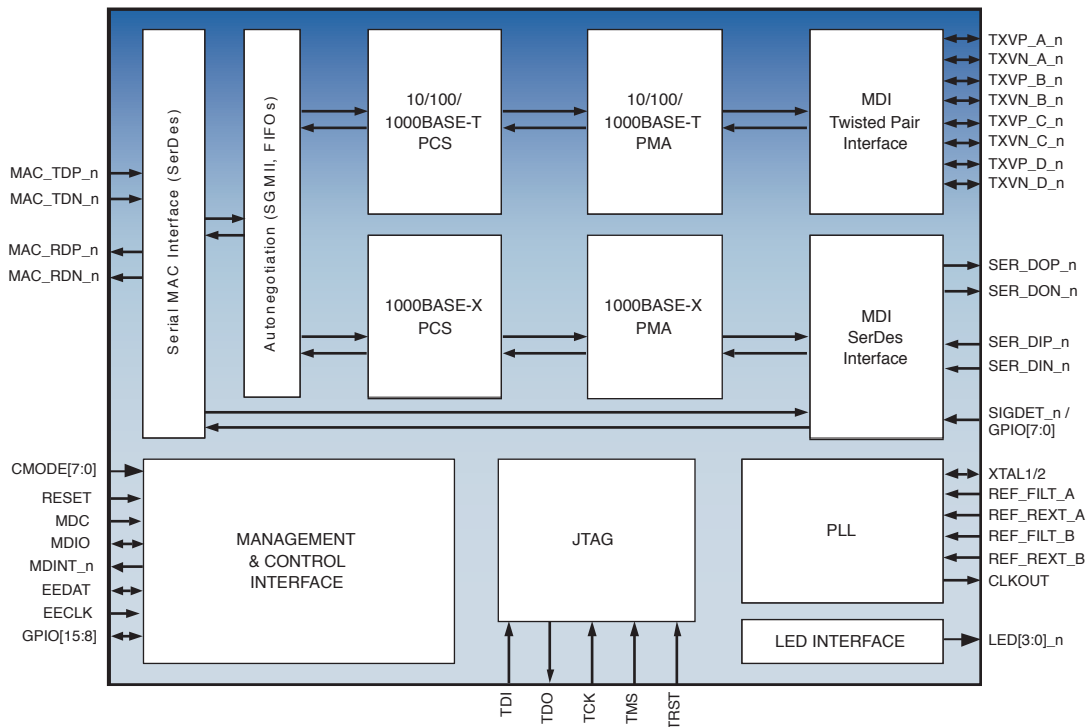
The VSC8558 is a low power octal Gigabit Ethernet transceiver ideal for multi-port switch and router applications. The device's compact BGA package is optimal for high-density switch applications.

Vitesse's mixed signal and DSP architecture yield robust performance, supporting both, full and half duplex 10BASE-T, 100BASE-TX, and 1000BASE-T over >140m of Category 5, unshielded twisted pair (UTP) cable, with industry leading tolerance to NEXT, FEXT, Echo, and system noise.

The VSC8558's dual 1.25 Gbps SerDes per port allows for simultaneous support of SGMII/1000BASE-X MACs to SerDes or copper media on a per port basis.

APPLICATIONS

- Dual media 10/100/1000BASE-T and 1000BASE-X switches
- Gigabit Ethernet-based SAN, NAS, and MAN systems
- ATCA™ 3.0 and PICMG™ 2.16 Ethernet backplane applications
- Multi-port fiber to CAT-5 media converters

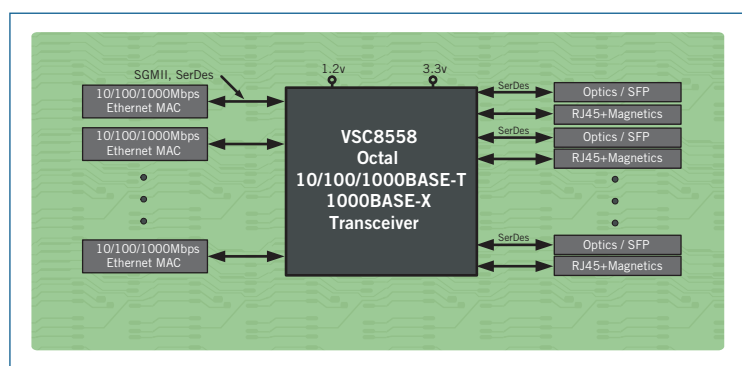


Features

- Extremely low power consumption of 650mW / port (1000BASE-T mode) enables use of 27mm, 444-pin HS-BGA package
- Patented, low EMI line driver with integrated line side termination resistors
- Dual, high performance 1.25 Gbps SerDes
- Auto-Media Sense™ detects and configures to support copper or fiber media on a per port basis
- Compliant with IEEE 802.3 (10BASE-T, 100BASE-TX, 1000BASE-T, 1000BASE-X) specifications
- >16kB jumbo frame support in all speeds with programmable synchronization FIFOs
- Four programmable direct drive LEDs per port with on-chip filtering and bi-color LED support
- Serial LED interface option
- Extensive testability features (including near end, far end, and connector loopback, and ethernet packet generator with CRC error counter)
- Supports Cisco SGMII v1.7 and 1000BASE-X MACs, IEEE 1149.1 JTAG boundary scan, and IEEE 1149.6 AC-JTAG
- VeriPHY™ cable diagnostics

Benefits

- Lowers system cost, simplifies system design, and enables single row, high port density switches
- Removes 384 passive components in 48-port switch applications
- Maximizes receive jitter tolerance and minimizes transmit jitter, in comparison to single SerDes architectures
- Versatile media interface support enables 10/100/1000BASE-T fixed media ports, 1000BASE-X SFPs, 1000BASE-T SFPs, 10/100/1000BASE-T SFPs, or backplanes to be connected to a single switch port
- Ensures seamless deployment throughout copper networks with industry's highest tolerance to noise and substandard cabling
- Provides for maximum jumbo frame sizes in custom SAN and LAN systems
- Eliminates external components and reduces EMI
- Provides maximum system design flexibility
- Decreases system development costs and system deployment costs, and improves time-to-market
- Multiple MAC interfaces and extensive JTAG support eases manufacturing
- Enables network manufacturers to simplify deployment and improves network management capabilities of gigabit Ethernet links



Related Vitesse Products

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