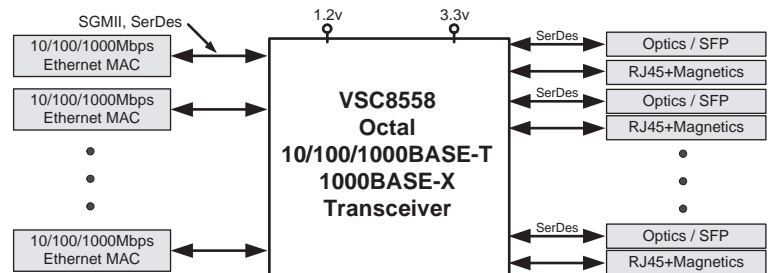


# VSC8558

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



### APPLICATION DIAGRAM:



FEATURES:	BENEFITS:
▶ Extremely Low Power Consumption of 650mW / port (1000BASE-T mode) Enables Use of 27mm, 444-pin HS-BGA Package	▶ Lowers System Cost, Simplifies System Design, and Enables Single Row, High Port Density Switches
▶ Patented, Low EMI Line Driver with Integrated Line Side Termination Resistors	▶ Removes 384 Passive Components in 48-port Switch Applications
▶ Dual, High Performance 1.25 Gbps SerDes	▶ Maximizes Receive Jitter Tolerance and Minimizes Transmit Jitter, In Comparison to Single SerDes Architectures
▶ Auto-Media Sense™ Detects and Configures to Support Copper or Fiber Media on a Per Port Basis	▶ 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
▶ Compliant with IEEE 802.3 (10BASE-T, 100BASE-TX, 1000BASE-T, 1000BASE-X) Specifications	▶ Ensures Seamless Deployment Throughout Copper Networks with Industry's Highest Tolerance to Noise and Substandard Cabling
▶ >16kB Jumbo Frame Support In All Speeds with Programmable Synchronization FIFOs	▶ Provides for Maximum Jumbo Frame Sizes in Custom SAN and LAN Systems
▶ Four Programmable Direct Drive LEDs per Port with On-chip Filtering and Bi-Color LED Support	▶ Eliminates External Components and Reduces EMI
▶ Serial LED Interface Option	▶ Provides Maximum System Design Flexibility
▶ Extensive Testability Features (Including Near End, Far End, and Connector Loopback, and Ethernet Packet Generator with CRC Error Counter)	▶ Decrease System Development Costs and System Deployment Costs, and Improve Time-to-Market
▶ Supports Cisco SGMII v1.7 and 1000BASE-X MACs, IEEE 1149.1 JTAG Boundary Scan, and IEEE 1149.6 AC-JTAG	▶ Multiple MAC Interfaces and Extensive JTAG Support Ease Manufacturing
▶ VeriPHY™ Cable Diagnosticts	▶ Enable Network Manufacturers to Simplify Deployment and Improve Network Management Capabilities of Gigabit Ethernet Links

### 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

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

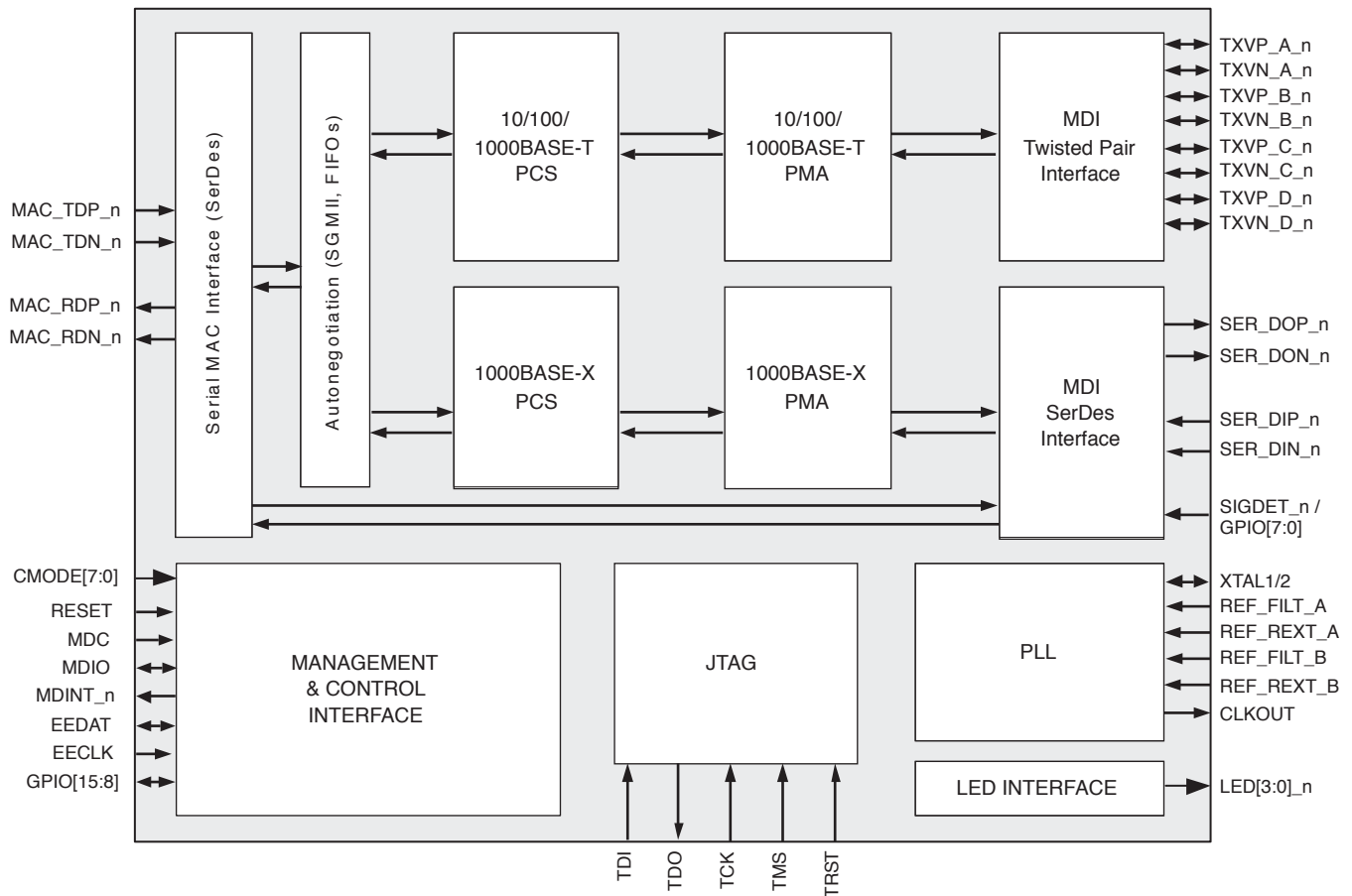
### GENERAL DESCRIPTION:



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.

### BLOCK DIAGRAM:



For more information on Vitesse Products visit the Vitesse web site at [www.vitesse.com](http://www.vitesse.com) or contact Vitesse Sales at (800) VITESSE or [sales@vitesse.com](mailto:sales@vitesse.com)

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