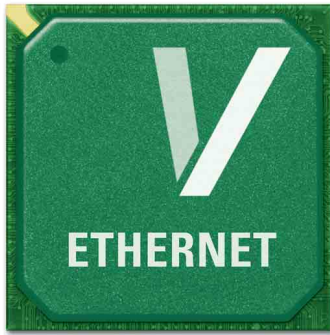


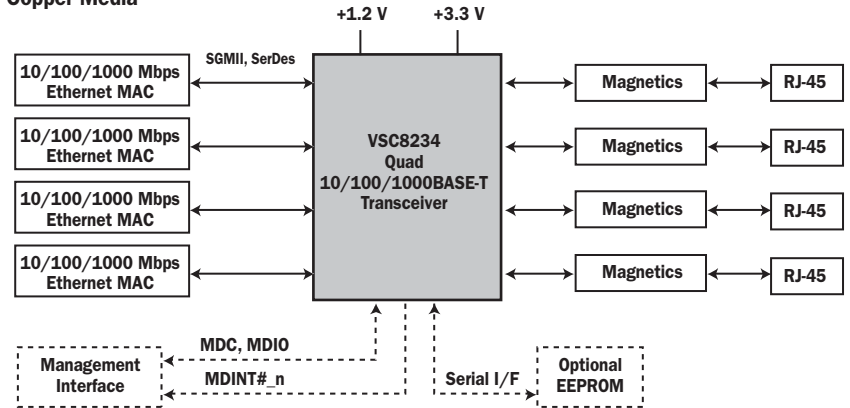
VSC8234

VITESSE

10/100/1000BASE-T PHY with SGMII and SerDes MAC Interfaces



Copper Media



FEATURES:

- ▶ Lowest Power Consumption in the Industry at Less than 640m W/port (1000BASE-T mode)
- ▶ Patented, Low EMI Line Driver with Integrated Line Side Termination Resistors
- ▶ Supports Cisco SGMII v1.7 and 1000BASE-X MACs
- ▶ High Performance 1.25 Gbps SerDes
- ▶ Compliant with IEEE 802.3 (10BASE-T, 100BASE-TX, 1000BASE-T, 1000BASE-X) Specifications
- ▶ >10kB Jumbo Frame Support with Programmable Synchronization FIFOs
- ▶ Five Direct Drive LEDs with On-chip Filtering
- ▶ Serial LED Interface Option
- ▶ Three User Configuration Options: 1) Optional Serial EEPROM, 2) Hardware Configuration Pins, or 3) Serial Management Interface (SMI)
- ▶ Full Suite of BIST, MAC, and Far-end Loopback Modes
- ▶ VeriPHY™ Cable Diagnostics Software Suite
- ▶ Automatic Detection and Correction of Cable Pair Swaps, Pair Skew and Pair Polarity, Along with HP Auto MDI/MDI-X Crossover Function
- ▶ Manufactured in Advanced 0.13µm, 3.3V/1.2V Digital CMOS Process

BENEFITS:

- ▶ Eliminates Heatsinks and Fans for Gigabit to the Desktop LAN Switches
- ▶ Removes 576 Passive Components in 48-port Switch Applications
- ▶ Compatible with a Wide Variety of Serial Switch ICs
- ▶ Supports SerDes and SGMII to CAT-5 Interfaces from a Single Device
- ▶ Ensures Seamless Deployment Throughout Copper Networks with Industry's Highest Tolerance to Noise and Substandard Cable Plants
- ▶ Provides for Maximum Jumbo Frame Sizes in Custom SAN and LAN Systems
- ▶ Eliminates External Components and EMI Issues
- ▶ Provides Maximum System Design Flexibility
- ▶ Offers Design Engineer a Solution to Fit any Unmanaged or Managed System Requirement
- ▶ Simplifies Comprehensive In-system Test to Ensure the Highest Product Quality
- ▶ Enables Network Manufacturers to Simplify Deployment and Improve Network Management Capabilities of Gigabit Ethernet Links
- ▶ Compatible with 1st Generation 1000BASE-T PHYs; Supports Auto MDI/MDI-X Even When Autonegotiation is Disabled
- ▶ Most Cost Effective Technology Eliminates More Expensive Analog Process Variants

APPLICATIONS:

- ▶ High Density 10/100/1000BASE-T LAN & MAN Switches and Routers
- ▶ High Performance Workstations and Multi-Port Server NICs
- ▶ Workgroup LAN Switches and Routers
- ▶ Multi-Port Fiber to Copper Media Converters
- ▶ Gigabit Ethernet-based SAN, NAS, and MAN Systems

VSC8234

10/100/1000BASE-T PHY with SGMII and SerDes MAC Interfaces

GENERAL DESCRIPTION:

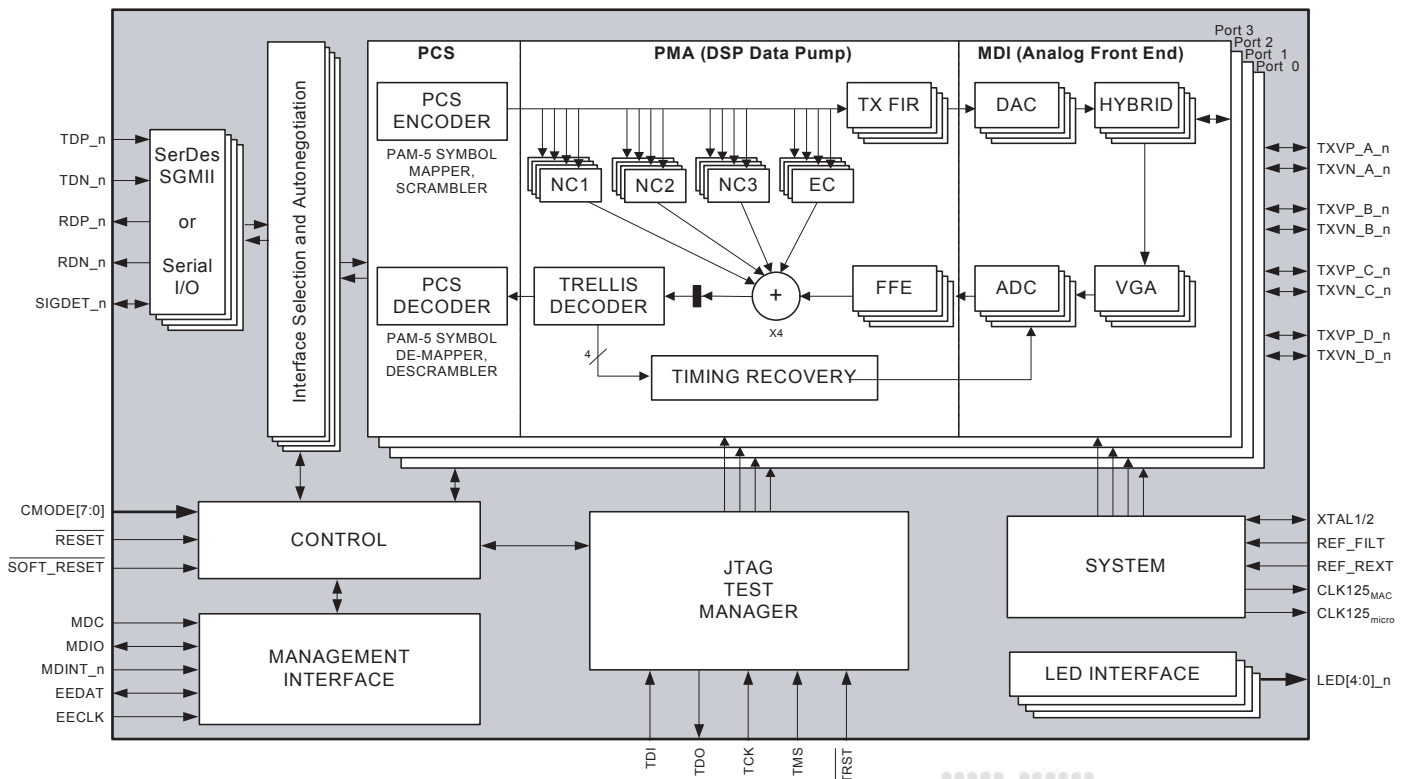


The VSC8234 is the industry's smallest, lowest power quad port Gigabit Ethernet transceiver for multi-port SGMII and SerDes switch and router applications. The VSC8234's power consumption is 30% lower than the next best competitor. Its serial MAC interface reduces pin count requirements by 66% (over RGMII) to 83% (over GMII). The device's compact 19mm x 19mm BGA package makes it ideal for the highest-density SGMII and SerDes switch applications. Vitesse's mixed signal and DSP architecture yields 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.

SPECIFICATIONS:

PARAMETER	TYP	UNIT	COMMENTS
P_D	<640	mW	Steady state power consumption per port
Serial Data Rate	1.25	Gbps	SerDes, SGMII interface data rate
VDD I/O	3.3, 2.5, 1.5	V	I/O power supply voltage options
VDDA	3.3	V	Analog supply voltage
VDDDIG	1.2	V	Core power supply voltage
$F_{TOL (REFERENCE)}$	25	MHz	Crystal parallel resonant frequency (+/- 100ppm tolerance)

BLOCK DIAGRAM:



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

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