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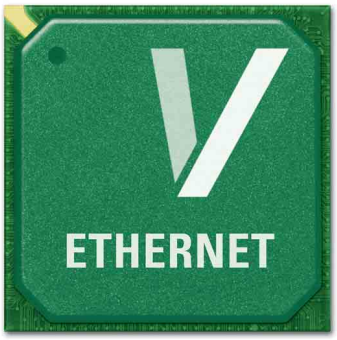
ETHERNET PRODUCTS

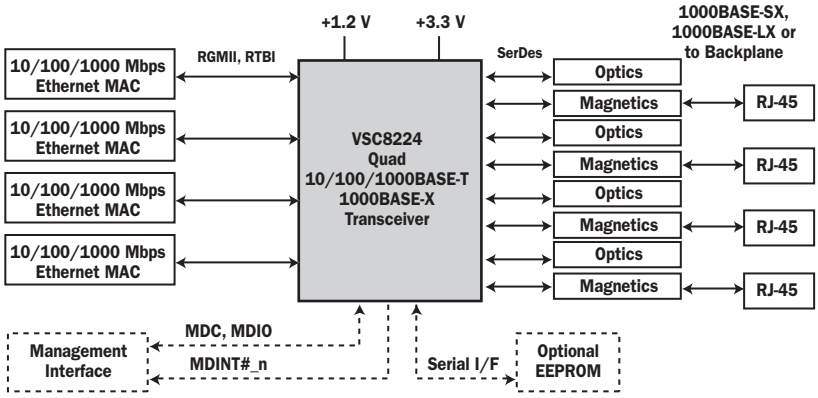
VSC8224

VITESSE

Quad Port 10/100/1000BASE-T and 1000BASE-X PHY with RGMII and RTBI MAC Interfaces



Copper + Optical Media (RGMII to SerDes)



FEATURES:	BENEFITS:
Lowest Power Consumption in the Industry at Less Than 640m W/port (1000BASE-T mode)	Eliminates Heatsinks and Fans for Gigabit to the Desktop LAN Switches
Patented, Low EMI Line Driver with Integrated Line Side Termination Resistors	Removes 576 Passive Components in 48-port Switch Applications
Supports RGMII v1.3 (2.5V & 3.3V) & v2.0 (1.5V HSTL)	Compatible with a Wide Variety of Parallel I/F Switch ICs
User-programmable RGMII Timing Compensation	Simplifies PCB Layout; Eliminates PCB Trombones
High Performance 1.25 Gbps SerDes	Supports CAT-5, Fiber Optic, and Backplane Interfaces from a Single Device
Auto-media Sense Detects and Configures to Support Fiber or Copper Media on a Per Port Basis	Single Chip Solution for Flexible Media Support
User-configurable Copper or Fiber Link Selection Preference with Programmable Interrupt and Signal Detect I/O Pins on Each Port	Ensures Plug-n-play Link Configuration when Connected to Any Copper, Fiber, or Backplane Link Partner
Compliant with IEEE 802.3 (10BASE-T, 100BASE-TX, 1000BASE-T, 1000BASE-X) Specifications	Ensures Seamless Deployment Throughout Copper and Optical Networks with Industry's Highest Tolerance to Noise and Substandard Cable Plants
>10kB Jumbo Frame Support with Programmable Synchronization FIFOs	Provides for Maximum Jumbo Frame Sizes in Custom SAN and LAN Systems
Five Direct Drive LEDs with On-chip Filtering Serial LED Interface Option	Eliminates External Components and EMI Issues Provides Maximum System Design Flexibility
VeriPHY™ Cable Diagnostics Software Suite	Enables Network Manufacturers to Simplify Deployment and Improve Network Management Capabilities of Gigabit Ethernet Links
Full Suite of BIST, MAC, and Far-end Loopback Modes	Simplifies Comprehensive In-system Test to Ensure the Highest Product Quality

APPLICATIONS:

- High Density 10/100/100BASE-T and 1000BASE-X LAN & MAN Switches and Routers
- Workgroup LAN Switches and Routers
- PICMG 2.16 and 3.0 Backplane Applications
- Gigabit Ethernet-based SAN, NAS, and MAN Systems
- High Performance Workstations and Multi-Port Server NICs
- Multi-Port Fiber to Copper Media Converters

VSC8224

Quad Port 10/100/1000BASE-T and 1000BASE-X PHY with RGMII and RTBI MAC Interfaces

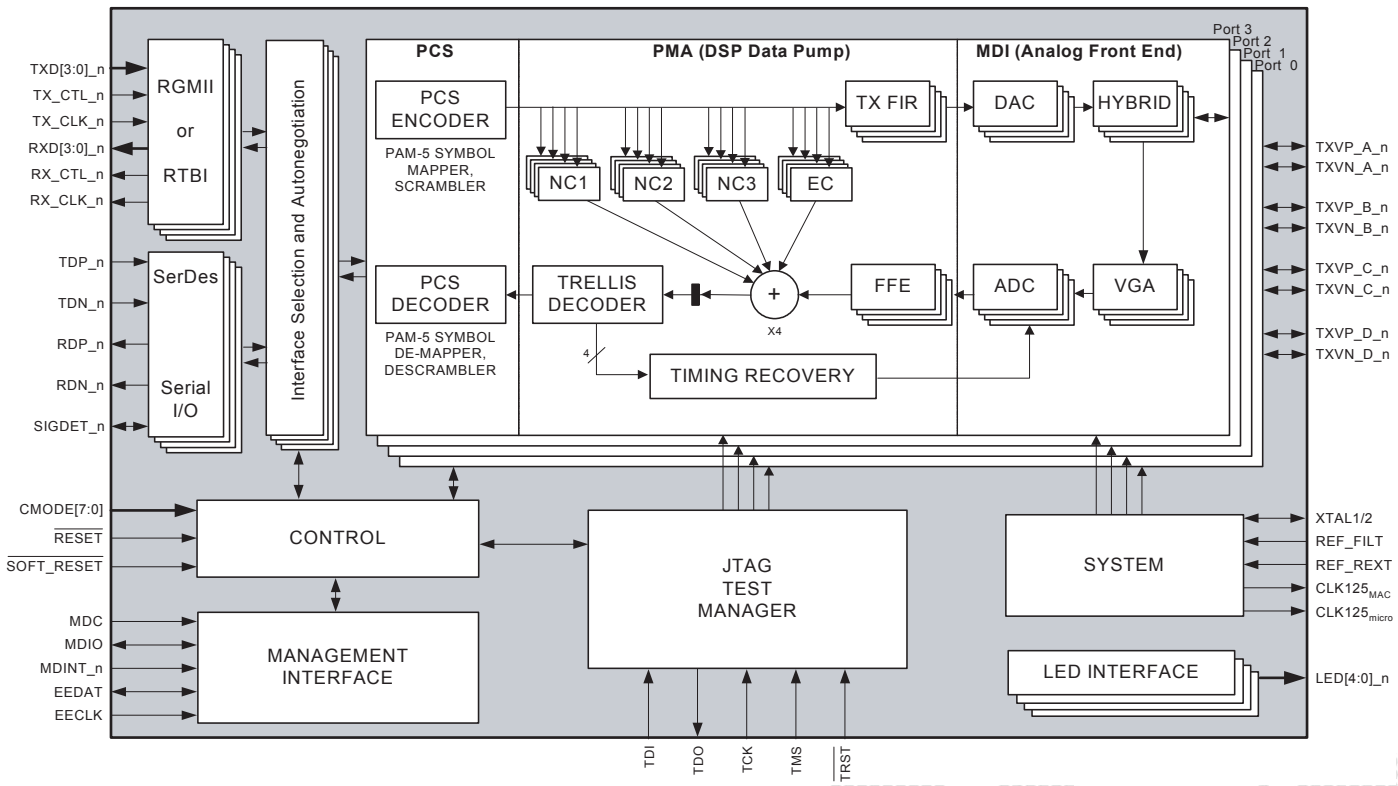
GENERAL DESCRIPTION:

The VSC8224 is the industry's smallest, lowest power quad port Gigabit Ethernet transceiver and is ideal for multi-port switch and router applications. In 1000BASE-T mode, the VSC8224's power consumption is 30% lower than the next best competitor. In RGMII-to-SerDes applications, its best-in-class power consumption of 145mW per port is more than 40% lower than that of competitors. The device's compact 19mm x 19mm BGA package makes it ideal for high-density 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 (1000BASE-T)
Serial Data Rate	1.25	Gbps	SerDes 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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