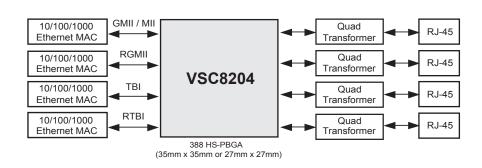
### **ETHERNET PRODUCTS**

# *VSC8204*

# VITESSE

# Quad Port 10/100/1000BASE-T PHY with R/GMII, R/TBI Interfaces





# FEATURES:

	51
<ul> <li>Four, Triple Speed (10/100/1000BASE-T) Transceivers in a Single 388- Pin Thermally Enhanced HS-PBGA Package</li> </ul>	<ul> <li>Enables Widespread, Low Cost, 1000BASE-T Deployment in Gigabit Ethernet and Switches</li> </ul>
▶ 1000BASE-T Power Consumption of <1W per Port	Eliminates Expensive Fans and Heat Sinks
Integrated Series Termination Resistors on MAC Interface Pins	<ul> <li>Improves Signal Integrity, Reduces EMI, and Eliminates More Than 600 External Components in 48-port Switch Blade Applications</li> </ul>
<ul> <li>Integrated RGMII Timing Compensation Eliminates PCB Design Challenges</li> </ul>	<ul> <li>Decreases Board Design Efforts, Increases PCB Timing Margins and Yields, and Shortens Time-to-market</li> </ul>
▶ VeriPHY™ Cable Diagnostics Software Suite	<ul> <li>Enables Network Manufacturers to Simplify Deployment and Improve Network Management Capabilities of Gigabit Ethernet Links</li> </ul>
<ul> <li>Fully IEEE 802.3, 802.3u (10BASE-T, 100BASE-TX) &amp; 802.3ab (1000BASE-T) Compliant</li> </ul>	Ensures Seamless Deployment Throughout Category-5 Networks
Automatic Detection and Correction of Cable Pair Swaps, Pair Skew, and Pair Polarity, Along with Auto MDI/MDI-X Crossover Function	<ul> <li>Compatible with 1st Generation 1000BASE-T PHYs, Allowing Trouble Free Migration to 1000BASE-T by Minimizing Common Interoperability Problems</li> </ul>
Choice of Standard GMII/MII or TBI, or Pin Saving RGMII/RTBI Interfaces	Compatible with a Wide Variety of MACs and Switches
Optional, Integrated Oscillator Circuit	Supports Single Low Cost 25MHz Crystal, or Either a 25MHz or 125MHz Standard Reference Clock Input
$\blacktriangleright$ >10KB Jumbo Frame Support with Programmable Synchronization FIFOs	Provides Support for Maximum Jumbo Frame Sizes in Custom LAN and SAN Systems
Manufactured in Mainstream, 3.3V / 1.5V Digital CMOS rocess	Cost Effective Manufacturing Process Eliminates Expensive Analog

**BENEFITS**:

**Process Variants** 

### APPLICATIONS:

Desktop LAN and SAN Switches with High Density 10/100/1000BASE-T Ports

Workgroup & Campus Switches, Routers

High Performance, Multi-port Server NICs

R

Z

# Quad Port 10/100/1000BASE-T PHY with R/GMII, R/TBI Interfaces

## GENERAL DESCRIPTION:

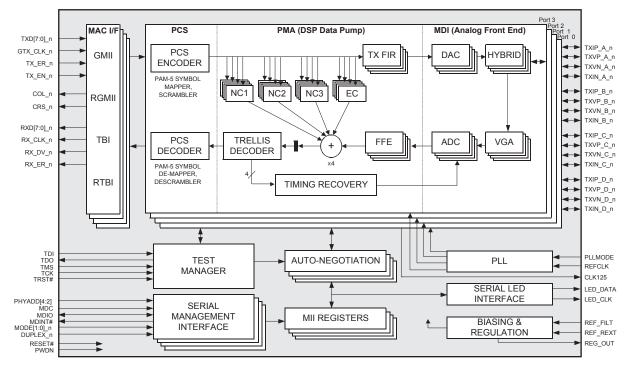


The VSC8204 is a low power, low cost, quad port Gigabit Ethernet PHY. It is ideal for Gigabit Ethernet Switch applications that require a GMII/MII, RGMII, TBI, or RTBI MAC / Switch interface. Vitesse's proprietary DSP technology yields robust performance and low power consumption, supporting 1000BASE-T over unshielded twisted pair (UTP) cable, with more than 5dB of design margin with respect to all worst-case impairments (NEXT, FEXT, Echo, and system noise sources).

# SPECIFICATIONS:

PARAMETER	ТҮР	UNIT	COMMENTS
PD	<1	W	Steady state power consumption (1000BASE-T mode)
L <sub>1G</sub> , L <sub>100M</sub>	>140	m	Cable link length supported in 1000BASE-T & 100BASE-TX modes, over Category 5 cable
L <sub>10M</sub>	180	m	Cable link length supported in 10BASE-T mode, over Category 3 cable
VDDIO	3.3	V	Digital I/O and Analog Core power supply voltage
VDDDIG	1.5	V	Digital and Analog Core power supply voltage
F <sub>TOL (REFERENCE)</sub>	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

Vitesse, ASIC-Friendly, FibreTimer, TimeStream and Snoop Loop are trademarks of Vitesse Semiconductor Corporation. All other trademarks or registered trademarks mentioned herein are the property of their respective holders. Vitesse Semiconductor Corporation ("Vitesse") retains the right to make changes to its products or specifications to improve performance, reliability or manufacturability. All information in this document, including descriptions of features, functions, performance, technical specifications and availability, is subject to change without notice at any time. 741 Calle Plano Camarillo, CA 93012, USA Tel: +1 805.388.3700 Fax: +1 805.987.5896 www.vitesse.com