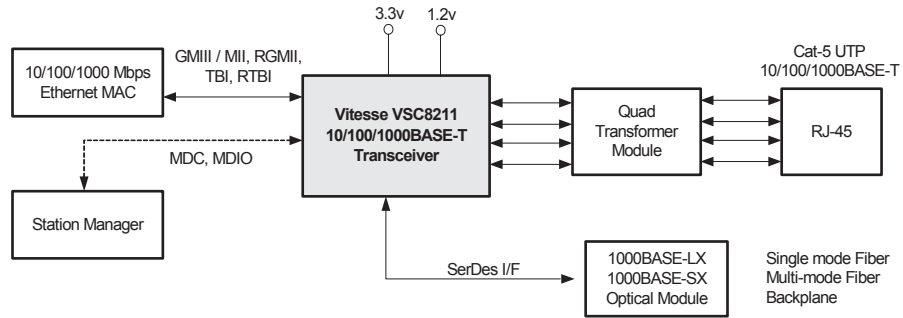
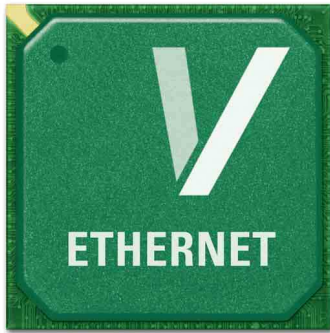


# VSC8211

VITESSE

## Single Port 10/100/1000BASE-T PHY and 1000BASE-X PHY with SGMII, SerDes, GMII, MII, TBI, RGMII / RTBI MAC Interfaces



FEATURES:	BENEFITS:
▶ Very Low Power Consumption at < 700mW	▶ Reduces Power Supply Costs
▶ Patented, Low EMI Line Driver with Integrated Line Side Termination Resistors	▶ Removes 12 Passive Components, Reducing PCB Area and Cost by 50%
▶ Supports PICMG 2.16 and 3.0 Ethernet Backplanes at Approximately 500mW	▶ Lowest Power Mode Reduces Power Supply Costs
▶ Supports Cisco SGMII v 1.7 and 1000BASE-X MACs	▶ Connects to Virtually any MAC or Optical Module and can be Used to Design Copper GBIC/SFP Modules and 100BASE-FX Modules
▶ Supports RGMII and RTBI v 1.3 & v 2.0 (2.5V & 3.3V)	▶ Simplifies PCB Layout, Eliminating the Need for On-board Delay Lines
▶ User-programmable RGMII Timing Compensation	▶ Supports Category-5 Copper, Fiber Optic, and Backplane Interfaces From a Single Device
▶ High Performance 1.25 Gbps SerDes	▶ Single Chip Solution for Flexible Media Support
▶ Auto-media Sense Feature Detects and Configures to Support Either Copper or Fiber Media	▶ Ensures Seamless Deployment Throughout Copper and Optical Networks with Industry's Highest Tolerance to Noise and Substandard Cabling Infrastructures
▶ Compliant with IEEE 802.3 (10BASE-T, 100BASE-TX, 1000BASE-T, 1000BASE-X) and SFP MSA Specifications	▶ Simplifies Comprehensive In-system Test to Ensure the Highest Product Quality
▶ Full Suite of BIST, MAC, Far-end, and Connector Loopback Modes	▶ Ensures Trouble-free Deployment in Real World Ethernet Networks
▶ Over 150m of Category-5 Reach with Industry's Highest Noise Tolerance	▶ Enables Network Manufacturers to Simplify Deployment and Improve Network Management Capabilities of Gigabit Ethernet Links
▶ VeriPHY™ Cable Diagnostics Software Suite	▶ Compatible with 1st Generation 1000BASE-T PHYs, Minimizing Common Interoperability Problems
▶ Automatic Detection and Correction of Cable Pair Swaps, Pair Skew and Pair Polarity, Along with Auto MDI/MDI-X Crossover Function	

### APPLICATIONS:

- ▶ Media Converters
- ▶ Dual Media Switch Ports
- ▶ iSCSI and TOE LOM
- ▶ Triple Speed Copper GBIC/SFP Modules
- ▶ 100BASE-FX Switch Ports and Modules
- ▶ Backplanes

# VSC8211

## Single Port 10/100/1000BASE-T PHY and 1000BASE-X PHY with SGMII, SerDes, GMII, MII, TBI, RGMII / RTBI MAC Interfaces

### GENERAL DESCRIPTION:

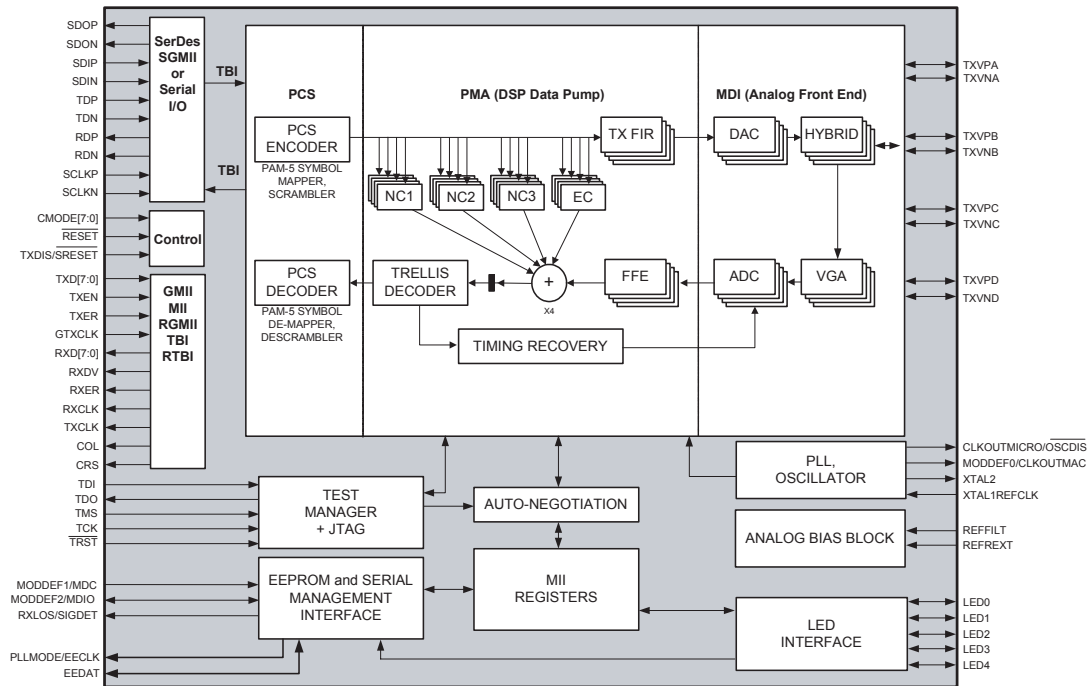


The VSC8211 is ideal for Media Converter and 100BASE-FX applications. Its low power consumption and patented line driver technology reduce the cost and complexity of Gigabit Ethernet system designs. The VSC8211's integrated 1.25 Gbps SerDes and Auto-Media Sense™ feature allow system designers to support Category-5 twisted pair, fiber optic, and backplane interfaces from a single device. 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 <sub>D</sub>	700	mW	Steady state power consumption (1000BASE-T) including SerDes
P <sub>DQ</sub>	<100	mW	Power consumption in ActiPHY™ Low Power State
L <sub>1G</sub> , L <sub>100M</sub>	150	m	Cable link length supported in 1000BASE-T & 100BASE-TX modes, over Category 5 cable
L <sub>10M</sub>	230	m	Cable link length supported in 10BASE-T mode, over Category 3 cable
Serial Data Rate	1.25	Gbps	SerDes, SGMII interface data rate
V <sub>DDA</sub>	3.3	V	DC power supply voltage range
V <sub>DDDIG</sub>	1.2	V	Core supply voltage
F <sub>TOL (REFERENCE)</sub>	25	MHz	Crystal parallel resonant frequency (+/- 100 ppm tolerance)

### 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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