

VSC8224

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

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 145 mW per port is more than 40% lower than that of competitors. The device's compact 19 mm x 19 mm BGA package makes it ideal for high-density switch applications.

Microsemi's mixed signal and DSP architecture yields robust performance, supporting both full and half duplex 10BASE-T, 100BASE-TX, and 1000BASE-T over >140 m of Category 5, unshielded twisted pair (UTP) cable, with industry leading tolerance to NEXT, FEXT, Echo, and system noise.

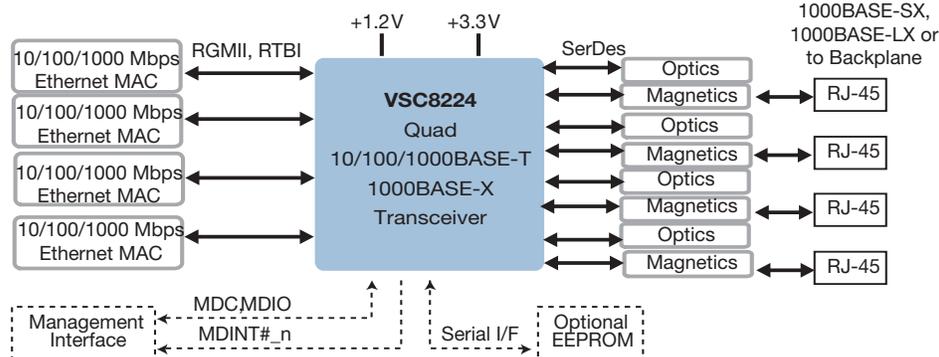
Applications

- 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

Specifications

- <640 mW typical steady state power consumption per port (1000BASE-T)
- 1.25 Gbps SerDes interface data rate
- 3.3, 2.5, 1.5 V I/O power supply voltage options
- 3.3 V analog supply voltage
- 1.2 V core power supply voltage
- 25 MHz crystal parallel resonant frequency (± 100 ppm tolerance)

Copper + Optical Media (RGMII to SerDes)



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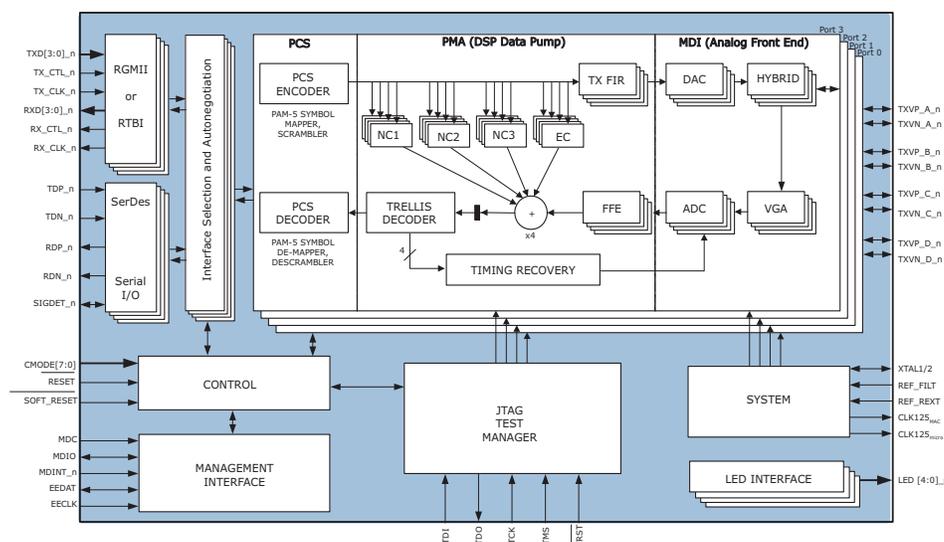
Features

- Lowest Power Consumption in the Industry at Less Than 640 mW/port (1000BASE-T mode)
- Patented, Low EMI Line Driver with Integrated Line Side Termination Resistors
- Supports RGMII v1.3 (2.5 V & 3.3 V) & v2.0 (1.5 V HSTL)
- User-programmable RGMII Timing Compensation
- High Performance 1.25 Gbps SerDes
- Auto-media Sense Detects and Configures to Support Fiber or Copper Media on a Per Port Basis
- User-configurable Copper or Fiber Link Selection Preference with Programmable Interrupt and Signal Detect I/O Pins on Each Port
- Compliant with IEEE 802.3 (10BASE-T, 100BASE-TX, 1000BASE-T, 1000BASE-X) Specifications
- >10 kB Jumbo Frame Support with Programmable Synchronization FIFOs
- Five Direct Drive LEDs with On-chip Filtering
- Serial LED Interface Option
- VeriPHY™ Cable Diagnostics Software Suite
- Full Suite of BIST, MAC, and Far-end Loopback Modes

- Removes 576 Passive Components in 48-port Switch Applications
- Compatible with a Wide Variety of Parallel I/F Switch ICs
- Simplifies PCB Layout; Eliminates PCB Trombones
- Supports CAT-5, Fiber Optic, and Backplane Interfaces from a Single Device
- Single Chip Solution for Flexible Media Support
- Ensures Plug-n-play Link Configuration when Connected to Any Copper, Fiber, or Backplane Link Partner
- Ensures Seamless Deployment Throughout Copper and Optical 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
- Enables Network Manufacturers to Simplify Deployment and Improve Network Management Capabilities of Gigabit Ethernet Links
- Simplifies Comprehensive In-system Test to Ensure the Highest Product Quality

Benefits

- Eliminates Heatsinks and Fans for Gigabit to the Desktop LAN Switches



Microsemi

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Microsemi Corporation (Nasdaq: MSCC) offers a comprehensive portfolio of semiconductor and system solutions for communications, defense and security, aerospace, and industrial markets. Products include high-performance and radiation-hardened analog mixed-signal integrated circuits, FPGAs, SoCs, and ASICs; power management products; timing and synchronization devices and precise time solutions; voice processing devices; RF solutions; discrete components; enterprise storage and communications solutions, security technologies, and scalable anti-tamper products; Ethernet solutions; Power-over-Ethernet ICs and midspans; custom design capabilities and services. Microsemi is headquartered in Aliso Viejo, California, and has approximately 4,800 employees worldwide. Learn more at www.microsemi.com.