VSC8496

Quad Channel 10 GbE PHY with OTN/FEC and VeriTime™

Microsemi's quad 10 GbE PHY delivers the industry's most accurate IEEE 1588v2 timing functionality and highly flexible XFI to XFI transceiver capability with optional OTN wrapper for 10 GbE and OTU2 applications.

The VSC8496 device includes the next-generation of VeriTime™, Microsemi's patent-pending distributed timing technology that delivers the industry's most accurate IEEE 1588v2 timing implementation with no loss of precision in Carrier Ethernet switch/router and DWDM systems. IEEE 1588v2 timing integrated in the PHY is the quickest, lowest cost method of implementing the timing accuracy that is critical to maintaining existing timing-critical capabilities during the migration from TDM to packet-based architectures.

Cost-efficient transponders based on the VSC8496 device cater to high volume 10 GbE. The VSC8496 device offers the ideal solution for multiport client and network interfaces on Ethernet and IP/MPLS switch routers.

This highly integrated device supports 10 GbE LAN Carrier Ethernet networks, as well as WAN and OTN networks, with G.Sup43 mapping modes. With its 10G PHY XFI/SFI interfaces and G.709 FEC features, the VSC8496 device provides a seamless and direct interface to XFP and SFP+ optical modules.

The VSC8496 device employs a bidirectional, independent channel architecture with performance monitoring support that can be used in 10 GbE PHY modes including bit-transparency. The OTN mapper with FEC supports performance monitoring and maintenance features to simplify the operation of optical networks supporting various client Ethernet signals.

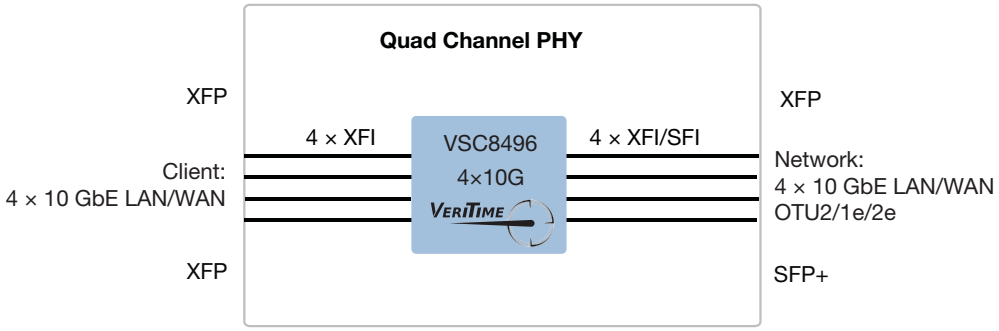
The VSC8496 device includes eight 10 Gbps bidirectional serial interfaces for direct connection to XFP or SFP+ optics modules or 10G serial backplaness.

Highlights

- 10 GbE LAN/WAN with SyncE and VeriTime™ timestamping
- 10 GbE PHY SerDes/CDR transceiver
- Integrated transponder support and XFI/SFI SerDes/CDR
- Integrated G.709 OTN/FEC wrapper
- Integrated jitter cleanup PLL to support SyncE applications
- Flexible 10 GbE LAN/WAN mapping to OTU2 and overclocked OTU1e/2e

Applications

- Ethernet or IP/MPLS switch routers
- MSPP/MSTP n x 10G line cards
- Operation over ZR and tunable SFP+



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Key Benefits

- Enables line cards supporting 10 GbE LAN/WAN and G.709 OTU2/1e/2e
- Lowest cost, power, and size for n x 10G line cards, as well as single-chip transponder
- Direct connect to XFP and SFP+ client and network optics
- Direct connect to MACs, G.709 OTN framers, and FPGAs
- Wraps 10 GbE LAN/WAN in G.709 OTU2 with either standard or enhanced FEC
- Supports full-rate 10 GbE LAN transport using overclocked OTU2e/1e (with or without fixed stuff), as well as GFP-mapping with or without preamble and ordered set retention (G.709 and G.Sup43)
- Supports loopbacks toward both client and network interfaces

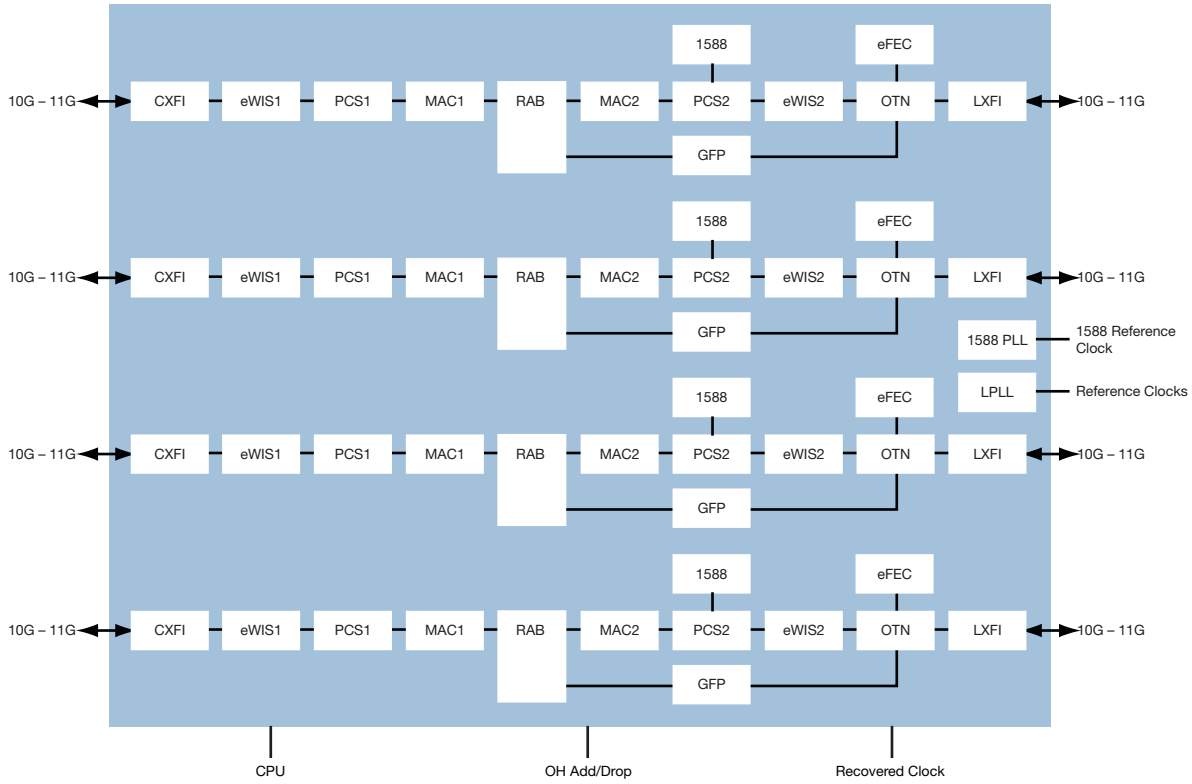
Key Specifications

- PHY support for 10 GbE LAN/WAN
- XFI/SFI serial interfaces connect directly to client or network XFP/SFP+ optics
- OTN Mapper with RS(255,239) and G.975.1 eFECs
- 21 mm × 21 mm ball grid array package
- Lower than 2 W per channel typical power dissipation

Related Products

Visit www.microsemi.com for information about these related products:

- VSC8492-2
- VSC8492-3
- VSC8494-2
- VSC8494-3



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