

VSC8248

Quad Port 8.5 Gbps to 11.3 Gbps CDR with EDC and KR Output

Microsemi's new high-performance clock and data recovery (CDR) IC provides superior signal integrity, speed flexibility, programmable output, and integrated diagnostics for a wide range of applications.

The VSC8248 is a quad channel clock and data recovery (CDR) device with on-chip adaptive electronic dispersion compensation (EDC), programmable input equalization, and KR-compliant output.

A versatile CDR and retimer for all 10G Ethernet applications, the VSC8248 device is compliant with IEEE 802.3ae and IEEE 802.3aq physical layer specifications, operating at 8.5 Gbps to 11.3 Gbps and 1.25 Gbps for legacy 1G Ethernet. Also supported are 8G Fibre Channel and 10G QDR Infiniband protocols and rates and related legacy substrates. The VSC8248's flexibility makes it an excellent candidate for upcoming 4x10G and 10x10G CFP module designs.

Integrated EDC compensates for signal degradations in both the optical and electrical domains. For optical systems, this includes chromatic dispersion in long-haul single mode fiber systems, and modal dispersion in multi-mode fiber systems. High-performance FFE-DFE EDC technology compensates for fiber signal impairment and PCB-related signal propagation impact. In copper applications, the VSC8248 EDC compensates for intersymbol interference (ISI) caused by signal propagation through interconnections, vias, and stubs in line cards, backplanes, and copper cables.

For optimized performance in the optical and electrical domains, the VSC8248 includes an integrated, fully KR-compliant multi-tap output driver, which enables the device to drive VCSEL lasers in low-cost applications, optimize jitter on the optical link, or drive signals across high-loss, low-bandwidth backplanes.

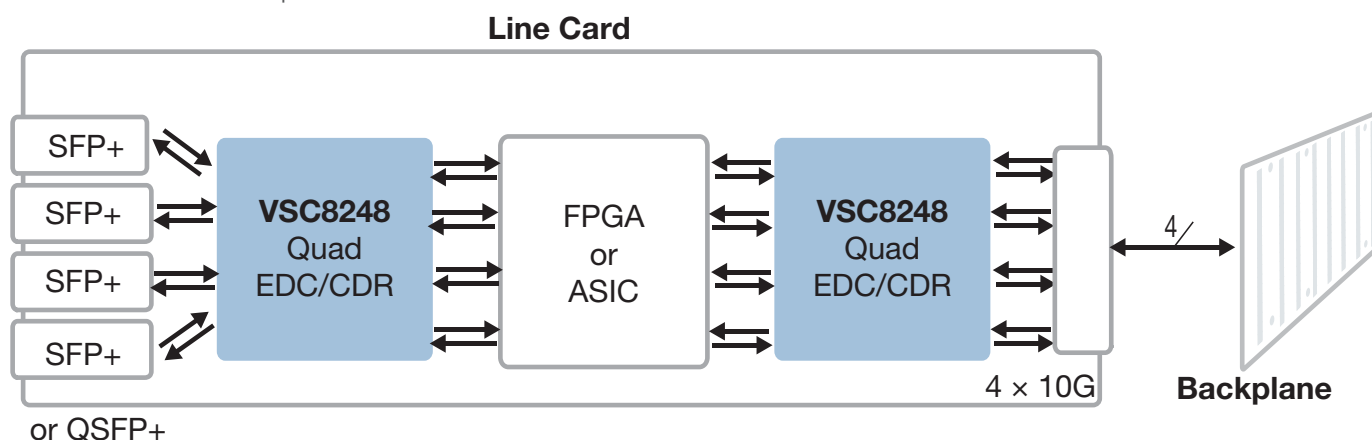
All four channels can support the same rate and protocol, or operate independently on a per-channel basis. Integrated BIST functions include pattern generators and error detectors at all supported data rates and client-side and line-side loopbacks.

Highlights

- Broad application support
- High-performance analog EDC
- Flexible KR output driver

Applications

- Low cost, high port density 10G SFP+ platforms
- 40G/100G CFP module designs: 4x10G, 10x10G, and 10x12G
- 10G KR and legacy backplane upgrades



Microsemi makes no warranty, representation, or guarantee regarding the information contained herein or the suitability of its products and services for any particular purpose, nor does Microsemi assume any liability whatsoever arising out of the application or use of any product or circuit. The products sold hereunder and any other products sold by Microsemi have been subject to limited testing and should not be used in conjunction with mission-critical equipment or applications. Any performance specifications are believed to be reliable but are not verified, and Buyer must conduct and complete all performance and other testing of the products, alone and together with, or installed in, any end-products. Buyer shall not rely on any data and performance specifications or parameters provided by Microsemi. It is the Buyer's responsibility to independently determine suitability of any products and to test and verify the same. The information provided by Microsemi hereunder is provided "as is, where is" and with all faults, and the entire risk associated with such information is entirely with the Buyer. Microsemi does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other IP rights, whether with regard to such information itself or anything described by such information. Information provided in this document is proprietary to Microsemi, and Microsemi reserves the right to make any changes to the information in this document or to any products and services at any time without notice.

VSC8248

Quad Port 8.5 Gbps to 11.3 Gbps CDR with EDC and KR Output

Flexibility

- MDIO, two-wire serial master, and two-wire serial slave interfaces
- Embedded microcontroller with on-board RAM for reduced system chip count
- Rx EDC programmable to user-defined values or adaptive mode operation
- Output pre-emphasis and signal programming for optimized signal integrity
- VScope™ input signal quality monitor integrated circuit for optimal eye opening and lower BER
- Power-on reset initializes default mode independently of the serial interface
- Independent per-channel operation and power-down
- Host-side and line-side loopbacks and BIST

Key Specifications

- 1.8 V and 1.2 V typical core power supplies (1.2 V to 3.3 V TTL supply)
- 16 mm × 16 mm, 225-pin FCBGA package

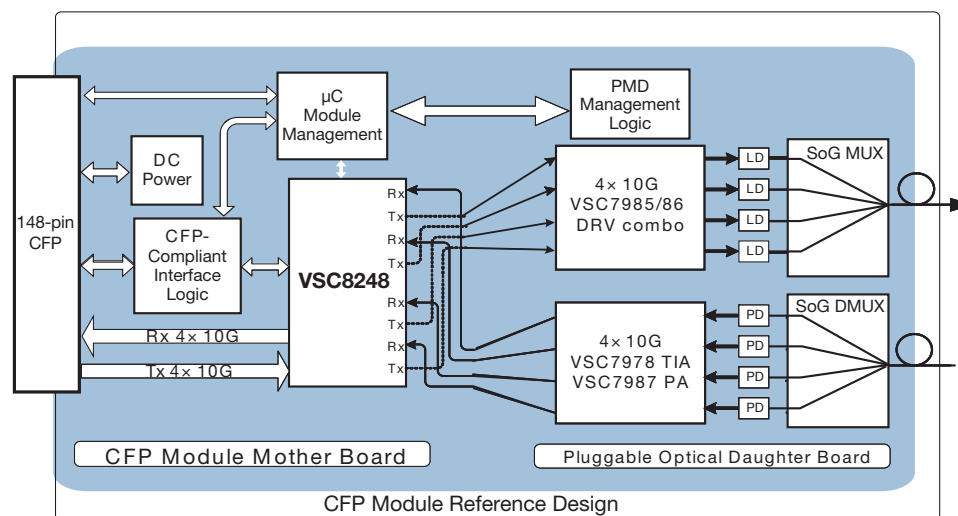
Wide Range of Support

- 8.5G to 11.3G Ethernet
- Legacy 1.25G Ethernet, 2G and 4G Fibre Channel, and 2.5G and 5G Infiniband
- Compliant with IEEE 802.3aq, IEEE 802.3ae, and SFF-8431 (SFI) electrical specifications
- Supports all SFP+ application codes and copper links

Related Products

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

- VSC3144 6.5 Gbps or 10.709 Gbps 144 × 144 Asynchronous Crosspoint Switch
- VSC3316 11.5 Gbps 16 × 16 Crosspoint Switch and Signal Conditioner
- VSC8484 and VSC8488 10 Gbps LAN/WAN PHY
- VSC7985 and VSC7986 10 Gbps VCSEL/DML Drivers
- VSC7987 10 Gbps Multirate Limiting Post Amplifier



Microsemi

Microsemi Corporate Headquarters
 One Enterprise, Aliso Viejo, CA 92656 USA
 Within the USA: +1 (800) 713-4113
 Outside the USA: +1 (949) 380-6100
 Sales: +1 (949) 380-6136
 Fax: +1 (949) 215-4996
 email: sales.support@microsemi.com
www.microsemi.com

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.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Timers & Support Products](#) category:

Click to view products by [Microchip](#) manufacturer:

Other Similar products are found below :

[MIC1557YD5-TR](#) [NLV14541BDG](#) [PT8A2515TAEX](#) [PT8A2514APE](#) [S-35710M01I-E8T3U](#) [S-35720C01A-K8T2U](#) [SY87700ALZG](#)
[LM555CM](#) [SA555S-13](#) [SE556J](#) [S-1410H30-K8T2U4](#) [S-35710C01I-K8T2U](#) [S-35720C01I-K8T2U](#) [S-35720C02I-K8T2U](#) [S-35730C01I-K8T2U](#) [S-35740C01I-K8T2U](#) [S-1410G29-K8T2U4](#) [S-1410A28-K8T2U4](#) [S-1410I45-K8T2U4](#) [ALD555PAL](#) [ALD7555PAL](#) [AD807A-155BRZ](#) [AD808-622BRZ](#) [ADN2807ACPZ](#) [ADN2814ACPZ](#) [ADN2819ACPZ-CML](#) [SE555QS-13](#) [ZSCT1555N8TA](#) [XD556](#) [NJM567D](#)
[NE555L-D08-T](#) [NE555N](#) [NE555N](#) [XD555](#) [XD7555](#) [XD551](#) [LMC555N](#) [LM555N](#) [TLC555N](#) [ICM7555CD](#) [ICM7242IPAZ](#) [ICM7555IPAZ](#)
[ICM7242IPA+](#) [ICM7555IPA+](#) [ICM7556IPD+](#) [ALD2502SBL](#) [MC14541BDG](#) [ICM7556ISD+](#) [MC14541BDR2G](#) [ICM7556ISD+T](#)