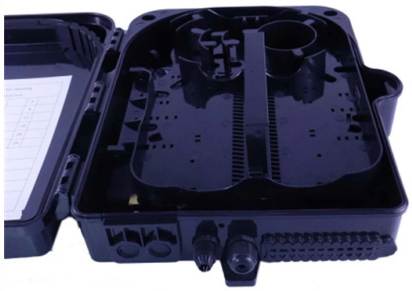
Optical Module CDR Chip Manufacturer



Overview

Tetra Semiconductors Ltd. proudly announces their 4-channel CDR chip TSC2PAM designed to replace DSPs in existing 8-channel 400Gb Ethernet optical modules.

Key Takeaways

Leading CDR chip manufacturers for optical modules include Semtech, MACOM, Semight, and minisilicon, offering solutions for NRZ and PAM4 applications across 10G to 400G+ speeds.

Key Manufacturers and Products

Semtech Semtech provides the ClearEdge® CDRs for NRZ applications (10Gbps, 16Gbps, 100Gbps) and Tri-Edge™ CDRs for PAM4 applications (200Gbps, 400Gbps).

Their CD

Rs are reference-free, ultra-low power, and can be monolithically integrated with laser drivers and TIAs, making them suitable for compact, high-performance optical modules in data centers.

Tri-

Edge CD

Rs support both short-reach (SR) and long-reach (LR) links, compatible with Open Eye MSA specifications.

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MACOM MACO

M offers a broad portfolio of high-performance CDR devices ranging from 10Gbps to 100Gbps per lane, including single-lane and multi-lane configurations. Their products can be standalone or integrated with TIA and laser drivers, providing flexibility for Ethernet, OTN, high-performance computing, SAN, industrial, and aerospace applications. Semight Semight produces high-speed CDR units for 400G and 800G optical module testing, such as the CR6256 53Gbaud PAM4/NRZ clock recovery unit.

These CD

Rs are used in eye pattern measurements and high-speed optical module evaluation, supporting the transition from 28Gbaud to 53Gbaud and 56Gbaud PAM4 optical ports. minisilicon minisilicon provides a variety of high-performance CDR chips for NRZ and PAM4 transceivers. Notable products include: MS32140: Four-channel CDR retimer and DML driver for 24–28Gbps signal conditioning, supporting 4x25G and 4x10G non-retiming serial links. MS32150: Four-channel signal receiver integrating CDR and cross-impedance amplifier for QSFP28 modules.

MS22300: Integrated bidirectional CDR, EML laser driver, and limiting amplifier for SFP+ timing modules.

Applications and Integration

These CD

R chips are widely used in data center optical modules, including SFP+, QSFP28, 100G, 200G, and 400G modules, and are critical for jitter reduction, signal conditioning, and clock recovery. Many chips support monolithic integration with laser drivers and TIAs, enabling compact, low-power, and high-speed solutions for next-generation optical interconnects.

Summary

For optical module CDR chips, Semtech, MACOM, Semight, and minisilicon are key manufacturers providing solutions for both NRZ and PAM4 applications. Their products cover a wide range of speeds, integration options, and form factors suitable for data center, high-speed networking, and optical module testing. These manufacturers are recognized for delivering low-power, high-performance, and multi-lane CDR solutions compatible with modern optical transceiver standards.

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Article Content

Clock Data Recovery (CDR): ClearEdge Clock Recovery IC

Building on the success of Semtech''s ClearEdge NRZ-based CDR platform technology, Tri-Edge is a CDR platform optimized for PAM4 optical interconnect in next-generation 200G and 400G data

Clock & Data Recovery

Our family of CDRs spans from 10Gbps to 100Gbps per lane in multitude of configurations including single lane and multi-lane devices, standalone CDRs and integrated combo devices with TIA and

Application of 53Gbaud rate CDR in high speed optical module testing ...

In February 2022, Semight announced the launch of the 56Gbaud PAM4 / NRZ clock recovery unit CR6256, providing a new choice for 400G / 800G optical module testing and adding new members to

CDR-Product-Module testing_TO testing_WUHAN PSS

The Presys Clock Data Recovery series is a high-performance, cost-effective CDR module product. It can extract clock and data signals from environmental data signals such as optical modules or

Tetra Semiconductors'' analog PAM4 CDR

Tetra Semiconductors Ltd. proudly announces their 4-channel CDR chip TSC2PAM designed to replace DSPs in existing 8-channel 400Gb Ethernet optical modules. While matching all

Clock Data Recovery

minisilicon provides a variety of high-performance clock and data recovery (CDR) chips, supporting NRZ or PAM4 transceiver systems. They provide multi-channel signal conditioners with the best

Optical module CDR chip | Weyland

With the gradual commercialization of 800G and 1.6T optical modules, demand for CDR chips will continue to grow, while moving toward higher integration and lower power consumption.

Which listed companies manufacture optical module chips?

Optical component suppliers, both publicly listed and privately held, that provide key components to optical module manufacturers. Contract manufacturing companies, such as Fabrinet

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Clock Data Recovery

MS32150 is a four channel signal receiver that integrates clock data recovery and cross impedance amplifier, suitable for QSFP28 optical modules of 24Gbs-28Gbs. Simultaneously supports CDR

Core Insights into Optical Modules: CDR Technology

In modern optical communication systems, optical modules serve as critical components for high-speed data transmission, and their performance

What is the use of CDR clock data recovery in optical modules?--ETU ...

In high-speed fiber-optic communication,data centers,and long-haul transmission systems,signal integrity is critical. Clock and Data Recovery (CDR) is a core function that ensures

Clock Data Recovery (CDR): ClearEdge Clock Recovery IC

Tri-Edge™ CDR Platform for PAM4 Signal Processing Building on the success of Semtech''s ClearEdge NRZ-based CDR platform technology, Tri-Edge is a CDR platform optimized for PAM4 optical

What Is Clock and Data Recovery in Modern Communication

In the relentless pursuit of faster data transmission, where terabits of information flow through fiber optic cables every second, maintaining signal integrity is paramount. One critical

What is the purpose of CDR in optical modules?

CDR clock data recovery function plays a vital role in the process of optical module signal transmission, today, we will introduce to you what exactly is CDR clock data recovery. CDR''s full

What''s difference between transceiver with CDR and without CDR

CDR bandwidth is an important indicator of CDR. It mainly affects the data lock time and jitter index of the optical module, which determines the key performance of the optical module. The

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Coherent Announces a CHIPS Letter of Intent for $50 Million to Expand World-Leading Manufacturing Facility for AI Infrastructure June 16, 2026 Proposed

CDR chip supports 50 Gbps data streams

The GN2255 clock-data recovery chip from Semtech cleans signals in 50 Gbps PAM4 data streams and integrates an optical laser driver.

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