



CORTINA

Product Brief

Cortina Systems® CS4217 Dual 10 Gbps CDR with EDC

Overview

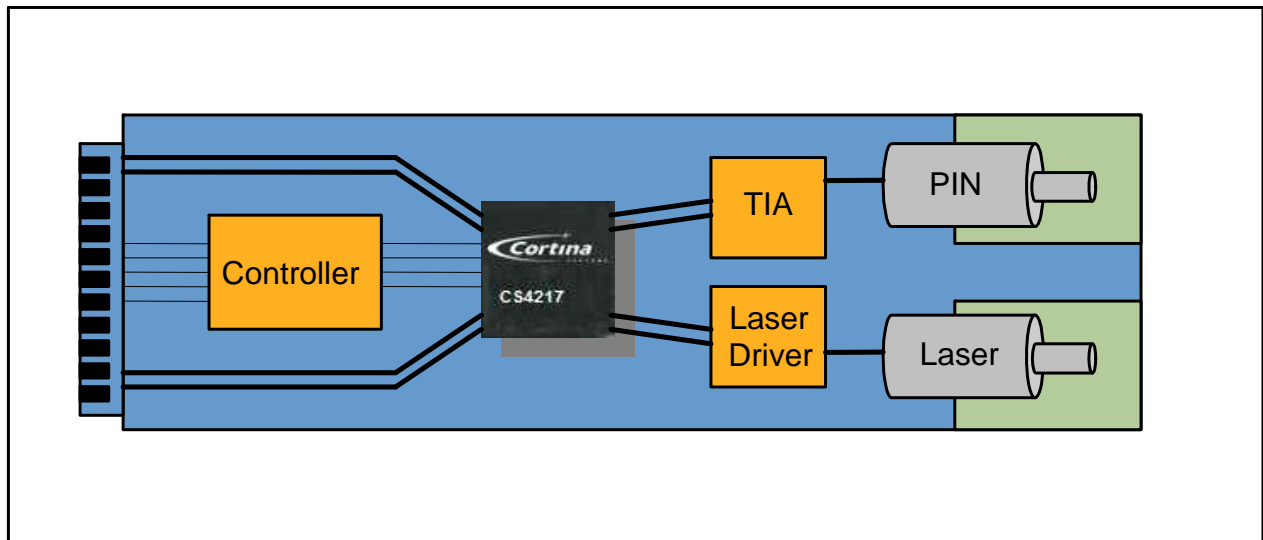
The Cortina Systems® CS4217 Electronic Dispersion Compensation Device (CS4217 EDC) is a highly integrated dual port 10 Gbps clock and data recovery (CDR) circuit. The receive path has integrated EDC to allow optical modules to extend the operating range of 62.5 μm and 50 μm multimode fiber to 220 m and beyond. The device integration and low power design techniques allow XFP 10GBASE-LRM modules to be built under 1.5 W.

Enabling X2 and XFP Optical Modules

10 GbE port shipments are anticipated to top the one million mark in 2009, according to the latest edition of Light Reading's Components Insider.

The CS4217 EDC incorporates two bi-directional 10 Gbps paths to support the increased port densities. Additional features of the CS4217 EDC include various lookbacks, a complete set of programmable Rx and Tx path functionality, such as output pre-emphasis, and full 1 GbE data rate support. Packaged in a small 12 mm by 12 mm flip-chip CSP package, the CS4217 EDC has an integrated microcontroller to enable auto adaptation of dispersed optical signals.

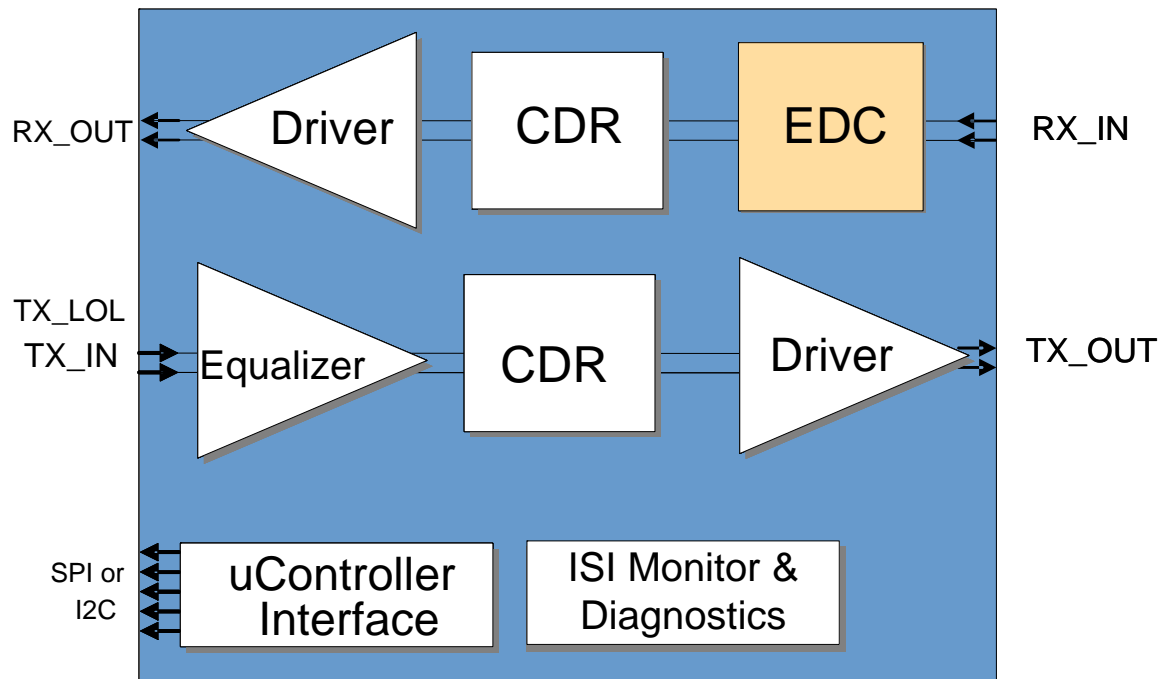
Successful interoperability testing of the CS4217 EDC with SFP+ optical modules from leading vendors has provided the broadest collection of real life system application data available in the industry with coverage for all three applications: SR, LR, and LRM.



Application in XFP Module

Features	Benefits
• Functionality	<ul style="list-style-type: none"> • Designed to exceed the requirements of IEEE* 802.3aq 10GBASE-LRM • XFI interface complies to XFP MSA specifications • Extends the operating range of multimode fiber to 300 m and beyond
• Transmit Path	<ul style="list-style-type: none"> • Programmable output voltage amplitude • Option to invert the polarity of TX+ and TX- signals • Integrated limiting amplifier with programmable equalizer • External pins for loss of signal (LOS) and loss of lock (LOL) • Exceeds XFP jitter generation requirements
• Receive Path	<ul style="list-style-type: none"> • Integrated EDC with option to bypass • Driver with programmable output voltage amplitude • Option to invert the polarity of RX+ and RX- signals • Integrated AGC controlled by DSP • External pins for loss of signal (LOS) and loss of lock (LOL) • Exceeds XFP jitter generation and jitter tolerance requirements
• EDC	<ul style="list-style-type: none"> • Equalizer exceeds the comprehensive stressed receiver test described in 10GBASE-LRM specification • Adaptation algorithm does not require any external processor or memory • Default adaptation algorithm can be field upgradeable • Advanced methods to analyze adaptation success including link SNR, valid PCS 64/66 block encoding • Continuously tracks and adapts as fiber dynamically changes
• Physical Characteristics	<ul style="list-style-type: none"> • 6x6mm • 49-pin BGA
• Test and Monitoring	<ul style="list-style-type: none"> • Multiple loopback modes • Extensive set of performance and status registers • Registers and status programmable through SPI or I2C management interface • Serial management interface can be used to reset and read error and statistical counters • JTAG 1149 Scan support

CS4217 EDC Diagram



Cortina in Communications

Cortina is a leading supplier of intelligent communication solutions through continuous innovations in advanced port processing and intelligent port connectivity to the Core, Metro, Access and Enterprise Market Segments. With our state-of-the-art high speed analog digital integration, we deliver a wide suite of products that address our customers' performance, density and

flexibility needs enabling faster time-to-market, longer time-in-market, and increased revenue opportunities. Working closely with our customers to understand their system requirements and anticipate their needs, we are creating the foundation ingredients for new generations of services.

*Other names and brands may be claimed as the property of others.

