# AFBR-86 Series

12 Channel Multi-rate 1.0 to 26.0Gb/s
CXP2 Pluggable Transceiver, 850nm
Multi-Mode Fiber Parallel Optics Module

## Product Brief



## Description

The Avago Technologies AFBR-86 Series is a Twelve-Channel, Pluggable, Parallel, Fiber-Optic CXP2 Transceiver for high density router interconnect applications.  This CXP2 transceiver is a high performance module usable for short-range, multi-lane data communication and interconnect applications.  Each lane can operate at 1.0 to 26.0 Gbps at distances up to 100 m using OM4 fiber. These modules are designed to operate over multimode fiber systems using a nominal wavelength of 850nm. The electrical interface uses an 84-contact edge type connector.  The optical interface uses a 24-fiber MTP® (MPO) connector. This module incorporates Avago Technologies proven integrated circuit and VCSEL technology to provide reliable long life, high performance, and consistent service.

The AFBR-86 Series has CDR capability to assist with channel signal integrity and is able to be enabled or disabled based on each individual channel.

## Applications

- 12 to 312.0 Gbps aggregate interconnects.
- Datacom/Telecom switch & router connections.
- Data Aggregation, Backplane and Proprietary Protocol and Density Applications.

## Features

- High Channel Capacity: 312 Gbps per module, bi-directional operation utilizing the 12 lane CXP definition
- Optical links up to 26.0 Gbps per channel at 1E-8 BER.
- Compatible with 10.3125Gb/s & 11.25Gb/s data rate in CDR bypass mode.
- Links up to 100 m using OM4 fiber with sufficient system jitter mitigation
- 0 to 70ºC case temperature operating range
- Proven High Reliability 850 nm technology: Avago VCSEL array transmitter and Avago PIN array receiver
- 12 Independent Transmitters and Receivers
- Two Wire Serial (i2c) interface with status and controls per CXP MSA
- Individual channel functions: CDR control, Tx disable, squelch disable, and lane polarity inversion
- Digital Diagnostics: module temperature and supply voltages, per channel laser current and laser power, and input receiver power
- Status per channel: Tx fault, electrical (transmitter) or optical (receiver) LOS, and alarm flags
- Utilizes a standard 24 lane optical fiber with MTP® (MPO)optical connector for high density and thin, light-weight cable management

## Part Number Ordering Options

| | |
|---|---|
| CXP2 Transceiver | AFBR-86 Series |
| CXP2 Evaluation Board | AFBR-86EVB |
| CXP2 Evaluation Kit | AFBR-86EVK* |

*Includes User Guide, APort and Power Supply
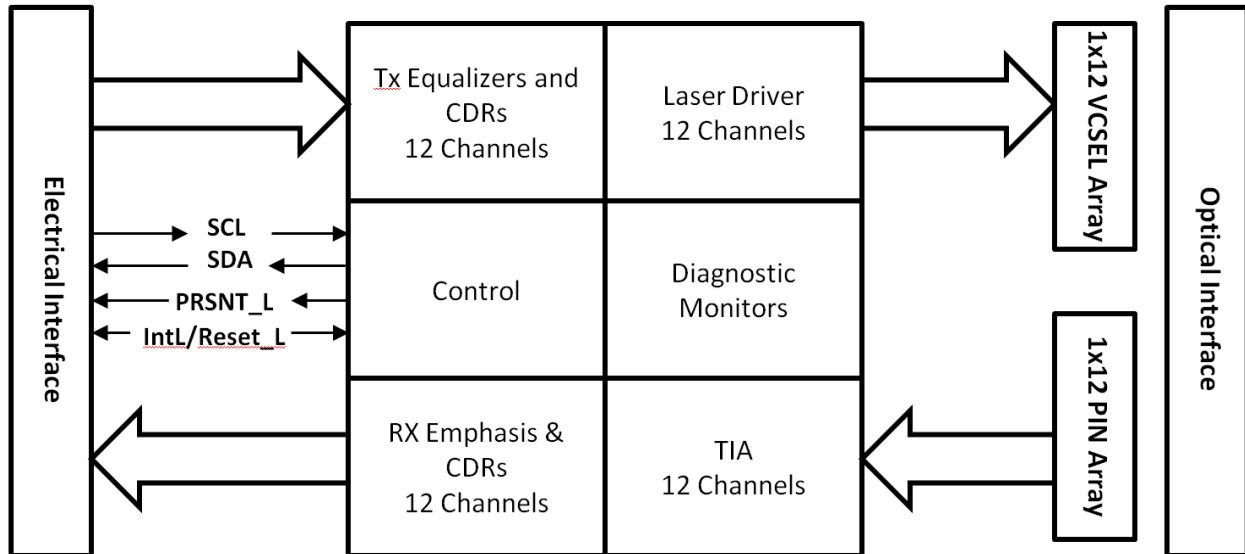


**CXP2 Block Diagram**

## Key Product Parameters

| Parameter | Value | Units | Notes |
|---|---|---|---|
| Data rate per lane | 1.0 to 26.0 | Gbps | Multi-rate configurable per application |
| Electrical Interface | CEI-28G-VSR | | |
| Electrical Connector | CXP2 | | |
| Link Length | 100 | m | OM4 |
| Transmitter Wavelength | 850 | nm | |
| Transceiver Eye Safety | Class 1 | | IEC 60825-1 Amendment 2 CFR 21 Section 1040 |
| Power Supply Voltage | 3.3 | V | |
| Number of Operational Lanes | 12 | channel | |
| Transceiver Case Temperature | 0 - 70 | °C | |
| Management Interface | Two-Wire Serial | | |