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CXP Active Optical Cables

10 & 12 Channel CXP AOCs

10.3 & 12.5 Gbps/Channel



Product Brief



Description

The Avago Technologies AFBR-83CDxxZ is a Twelve-Channel, Pluggable, Parallel, Fiber-Optic CXP Active Optical Cable for 12.5 Gbps Proprietary applications, 100 Gigabit Ethernet (100GbE) and 12x10 G InfiniBand (IB) QDR applications. AFBR-83PDxxZ is a Twelve-Channel Active Optical Cable (AOC) for proprietary applications up to 10.3125 Gbps, for 12x10G InfiniBand QDR, and for 100GbE. AFBR-83EDxxZ is for 10 channel 100GbE. These Active Optical Cables (AOCs) are a high performance cable intended for short-range multi-lane data communication and interconnect applications. They integrate up to twelve data lanes in each direction with up to 150 Gbps aggregate bandwidth. Each lane can operate at up to 12.5 Gbps. These cables are also compliant to 100GbE CPPI electrical specs and the Twelve-Channel AOCs are backward compatible to the 12x5G IB dual data rate (IB-DDR) and 12x2.5G IB single data rate (IB-SDR) applications.

These cables are designed to operate over multimode fiber systems using a nominal wavelength of 850 nm. The electrical interface uses an 84-contact edge type connector. This AOC incorporates Avago Technologies proven integrated circuit and VCSEL technology to provide reliable long life, high performance, and consistent service.

Part Number Ordering Options

12x 12.5 Gbps CXP Active Optical Cable	AFBR-83CDxxZ
12x 10.3125 Gbps CXP Active Optical Cable	AFBR-83PDxxZ
10x 10.3125 Gbps CXP Active Optical Cable	AFBR-83EDxxZ
CXP Evaluation Board	AFBR-83EVB
CXP Evaluation Kit	AFBR-83EVK*

Where xx = Reach in meters

**Includes GUI, User Guide, i-Port and Power Supply

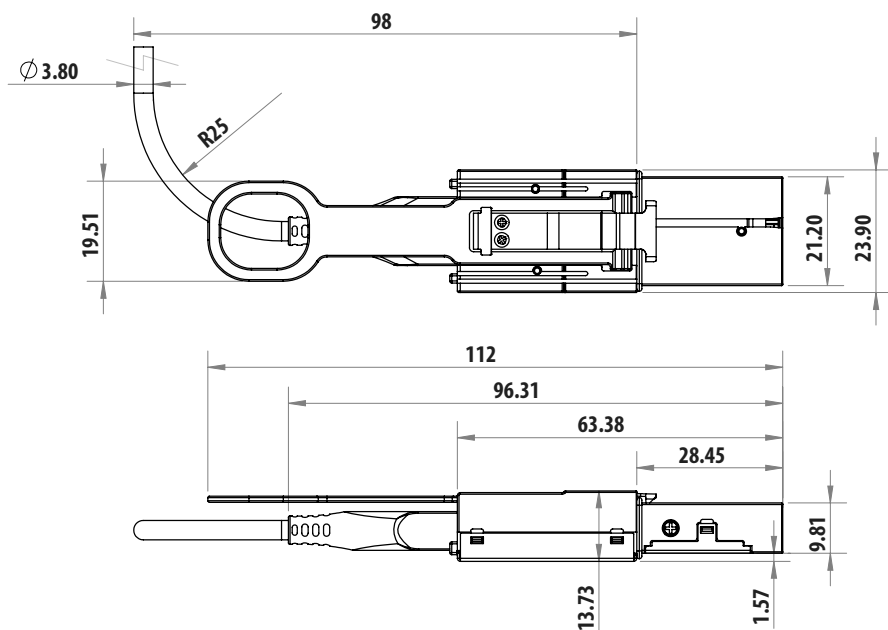
Features

- Compliant to SFF-8642: Mini Multilane Series: Shielded Integrated Connector, and IBTA Annex A6 CXP Interface Specification
- High Channel Capacity: up to 12.5 Gbps per channel with > 150 Gbps aggregate bandwidth, bi-directional operation
- Each of the channels is compliant on a per lane basis with the IEEE 802.3ba 100GbE (100 GBASE-SR10 and CPPI) specifications, and supporting InfiniBand QDR/DDR/SDR application
- Multi-rate capable from 1 Gbps to 12.5 Gbps
- Operates at 64b/66b and 8b/10b encoded data for Proprietary, 100GbE and InfiniBand applications
- Hot Pluggable
- 0 to 70° C case temperature operating range
- 3.3 V power supply only
- Proven High Reliability 850 nm technology: Avago VCSEL array transmitter and Avago PIN array receiver
- Up to twelve Independent Transmitters and up to twelve Independent Receivers
- Two Wire Serial (TWS) interface with maskable interrupt for expanded functionality including:
 - Individual channel functions: channel disable, lane polarity inversion, loss of signal
 - Diagnostic Monitoring functions: temperature and supply voltages
- Utilizes optical fiber for high density and thin, light-weight cable management

Applications

- 12.5 Gbps Proprietary Interconnects (for AFBR-83CDxxZ)
- 100 GbE and IB-QDR/IB-DDR/IB-SDR interconnects
- Data Aggregation, Backplane and Proprietary Protocol and Density Applications
- Datacom/Telecom switch & router connections

Mechanical Dimensions, Package Outline



All dimensions in millimeters

Figure 1. Active Optical Cable package dimensions

Key Product Parameters

Parameter	Value	Units	Notes
Data rate per lane	12.5 10.3125	Gbps	For 12.5Gbps Proprietary Interconnects (AFBR-83CDxxZ) Compliant to 802.3ba 100GbE CPPI Specifications
Number of operational lanes	12		Compliant to 802.3ba 100GbE CPPI Specifications on a per lane basis
Operating Temperature Range	0-70	°C	Case Temperature
Power Supply Voltage	3.3	V	Requires only 3.3V Power rails
Management Interface	Two-Wire Serial		Specifications are compliant with InfiniBand Architecture 1.2.1 Annex A6: CXP
Transceiver Power	3.5 3.0	W	For 12 channel CXP AOCs For 10 channel CXP AOCs
Electrical Interface	84 contacts		Compliant to SFF-8642 MINI MULTILANE SERIES: SHIELDED INTEGRATED CONNECTOR

For product information and a complete list of distributors, please go to our web site: www.avagotech.com

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