



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



# AFBR-7QERxxZ

40 Gigabit Ethernet & InfiniBand QDR  
QSFP+ Pluggable, Parallel Active Optical Cable



## Product Brief

### Description

The Avago Technologies AFBR-7QERxxZ is a Four-Channel, Pluggable, Parallel, Fiber-Optic QSFP+ Active Optical Cable (AOC) solution for 40 Gigabit Ethernet Applications. This AOC is a high performance cable for short-range multi-lane data communication and inter-connect applications. It integrates four data lanes in each direction with 40 Gbps aggregate bandwidth. Each lane can operate at 10.3125 Gbps. These cables also support 4 x 10 G InfiniBand QDR applications and are backwards compatible to the 4 x 5 G IB DDR and 4 x 2.5 G IB single IB SDR applications.

These Active Optical Cables operate over multimode fiber systems using a nominal wavelength of 850 nm. The electrical interface uses a 38 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

40 Gigabit Ethernet & InfiniBand QDR	AFBR-7QERxxZ
40GbE QSFP+ to 4x 10GbE SFP+ Breakout AOC	AFBR-7IERxxZ

Where xx = cable length in meters

For specifications pertaining to the SFP+ Active Cable-end see AV02-2948EN AFBR-7CERxxZ SFP+ Active Optical Cable (AOC) Datasheet

Evaluation Board	AFBR-79Q4EKZ*
Evaluation Kit	AFBR-79Q2EKZ**

\* Includes GUI and User Guide

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

Note: Two evaluation boards are needed in order to run the bi-directional QSFP+ Active Cable Assembly

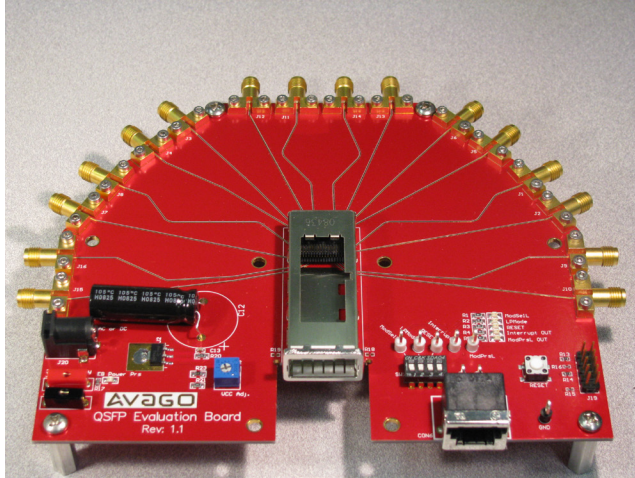
### Features

- Compliant to the 40GBASE-SR4 and XLPP1 Specification per IEEE 802.3ba-2010 and supporting 40G-IB-QDR/20G-IB-DDR/10G-IB-SDR applications
- Compliant to the industry standard SFF-8436 QSFP+ Specification
- Power Level 1: Max Power < 1.5 W
- High port density: 21 mm horizontal port pitch
- Operate at 10.3125 Gbps per channel with 64b/66b encoded data for 40GbE application and at 10 Gbps with 8b/10b compatible encoded data for 40G-IB-QDR application
- 0 to 70° C case temperature operating range
- Proven High Reliability 850 nm technology: Avago VCSEL transmitter and Avago PIN receiver
- Hot pluggable for ease of servicing and installation
- Two Wire Serial (TWS) interface
- Utilizes optical fiber for high density and thin, lightweight cable management

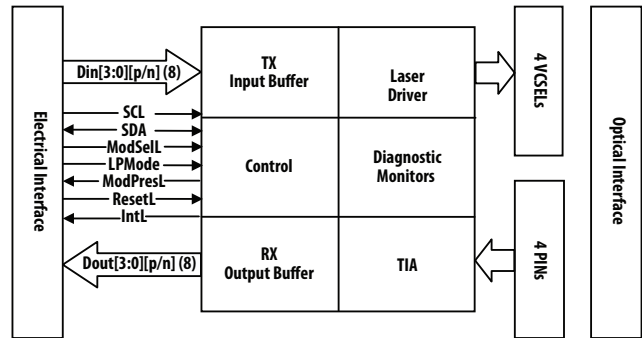
### Applications

- 40GbE and 40G-IB-QDR / 20G-IB-DDR / 10G-IB-SDR inter-connects
- Datacom/Telecom switch & router connections
- Data aggregation and backplane applications
- Proprietary protocol and density applications

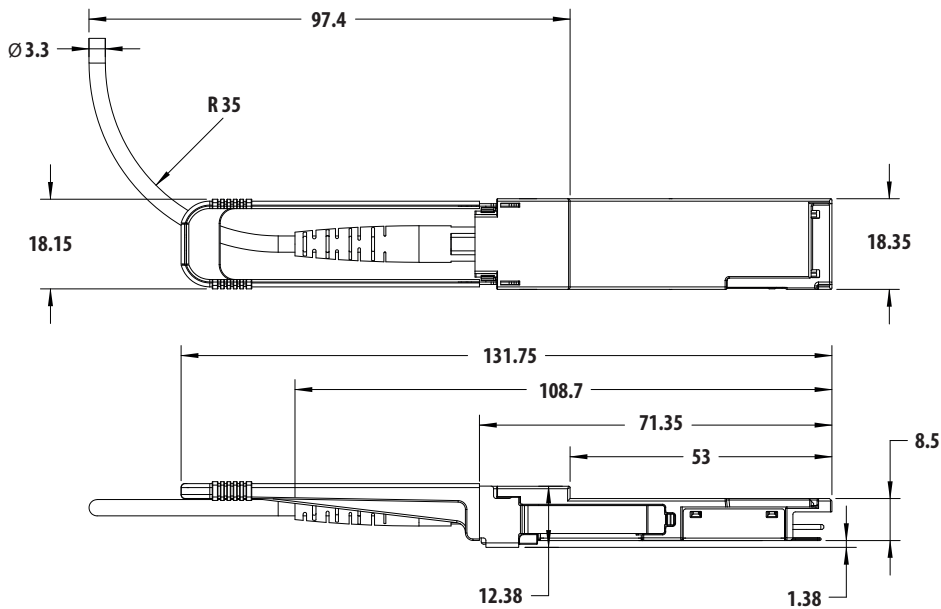
## Evaluation Kit



## Active Optical Cable Block Diagram – Active Components



## Mechanical Dimensions



## Key Product Parameters

Parameter	Value	Units	Notes
Data rate per lane	10.3125 10.0	Gbps Gbps	Per IEEE 802.3ba 40GBASE-SR4 standard InfiniBand QDR rate
Transceiver Case Operating Temperature	0-70	°C	
Power Supply Voltage	3.3	V	
Management Interface	Two-Wire Serial		Per SFF-8436 QSFP+ specification
Eye Safety	Class 1M		Per EN 60825-1:2007
Transceiver Power Consumption	<1.5	W	Power Level Class 1
Electrical Connector	38 contact connector		Per SFF-8436 QSFP+ specification
Electrical Interface	XLPPi High Speed Electrical		Per IEEE 802.3ba standard

For product information and a complete list of distributors, please go to our web site: [www.avagotech.com](http://www.avagotech.com)

Avago, Avago Technologies, and the A logo are trademarks of Avago Technologies in the United States and other countries. Data subject to change. Copyright © 2005-2012 Avago Technologies. All rights reserved. AV02-3541EN - November 5, 2012

