

AFBR-79EQPZ

QSFP+ Pluggable, Parallel Fiber-Optics Module
for 40 Gb Ethernet and InfiniBand Applications



Product Brief



Description

The Avago Technologies AFBR-79EQPZ is a Four-Channel, Pluggable, Parallel, Fiber-Optic QSFP+ Transceiver with an integrated push-pull tab for 40 Gigabit Ethernet (40GbE) application. This transceiver is a high performance module for short-range multi-lane data communication and interconnect applications. It integrates four data lanes in each direction with 40 Gbps aggregate bandwidth. Each lane can operate at 10.3125 Gbps up to 100 m using OM3 fiber or 150 m using OM4 fiber. These modules supports 4 x 10G InfiniBand (IB) quadruple data rate (40G-IB-QDR) application and is backward compatible to the 4 x 5G IB dual data rate (20G-IB-DDR) and 4 x 2.5G IB single data rate (10G-IB-SDR) applications as well.

These modules are designed to operate over multimode fiber systems using a nominal wavelength of 850nm. The electrical interface uses a 38 contact edge type connector. The optical interface uses an 8 or 12 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 integrated push-pull tab facilitates the insertion and extraction of these modules in all applications.

Applications

- 40 Gigabit Ethernet interconnects
- 40G-IB-QDR / 20G-IB-DDR / 10G-IB-SDR InfiniBand interconnects
- Datacom/Telecom switch & router connections
- Data Aggregation and Backplane Applications
- Proprietary Protocol and Density Applications

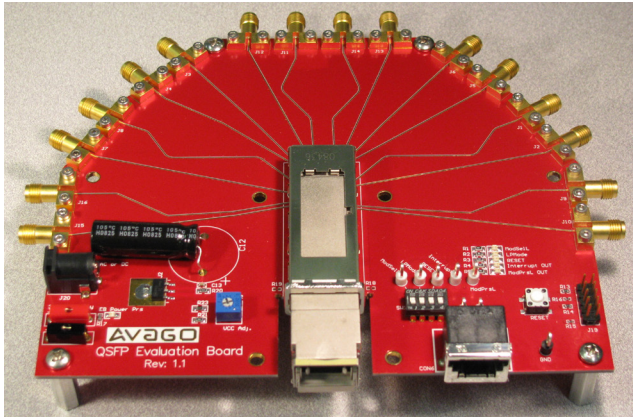
Part Number Ordering Information

AFBR-79EQPZ 40GbE and 40G-IB-QDR/20G-IB-DDR/
10G-IB-SDR with full real-time digital
diagnostic monitoring and push-pull tab

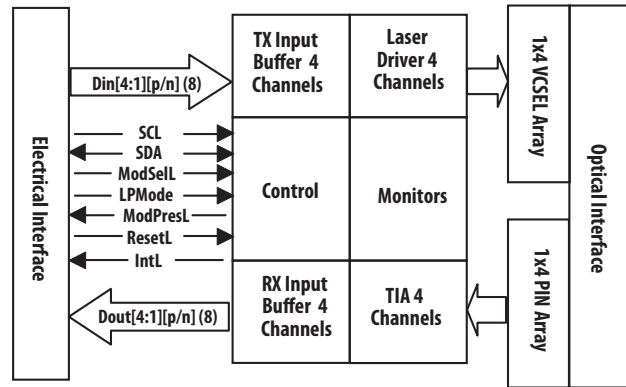
Features

- Compliant to the 40GBASE-SR4 and XLPPI Specifications 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 Revision 3.5
- Power Level 1: Max Power < 1.5W
- High port density: 21mm horizontal port pitch
- Push-pull tab: ease of transceiver insertion and extraction; tab front clip color coded "Black" for SR4 identification
- Operates 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
- Links up to 100 m using OM3 fiber and 150m using OM4 fiber
- Supports optical interoperability with 10GBASE-SR modules per IEEE 802.3ae standard provided the receiver overload of the 10G modules sustains up to 2.4 dBm input optical power
- 0 to 70°C case temperature operating range
- Proven High Reliability 850 nm technology: Avago Technologies VCSEL array transmitter and Avago Technologies PIN array receiver
- Hot pluggable transceiver for servicing and ease of installation
- Two Wire Serial (TWS) interface with Digital Monitoring and maskable interrupts for expanded functionality including:
 - o Individual channel functions: channel disable, squelch disable
 - o A/D readback: module temperature and supply voltage, per channel laser current and receiver input power
 - o Status: per channel Tx fault, electrical (transmitter) or optical (receiver) LOS, and alarm/warning flags
- Utilizes a standard 12/8 lane optical fiber with MTP® (MPO) optical connector for high density and thin, light-weight cable management.

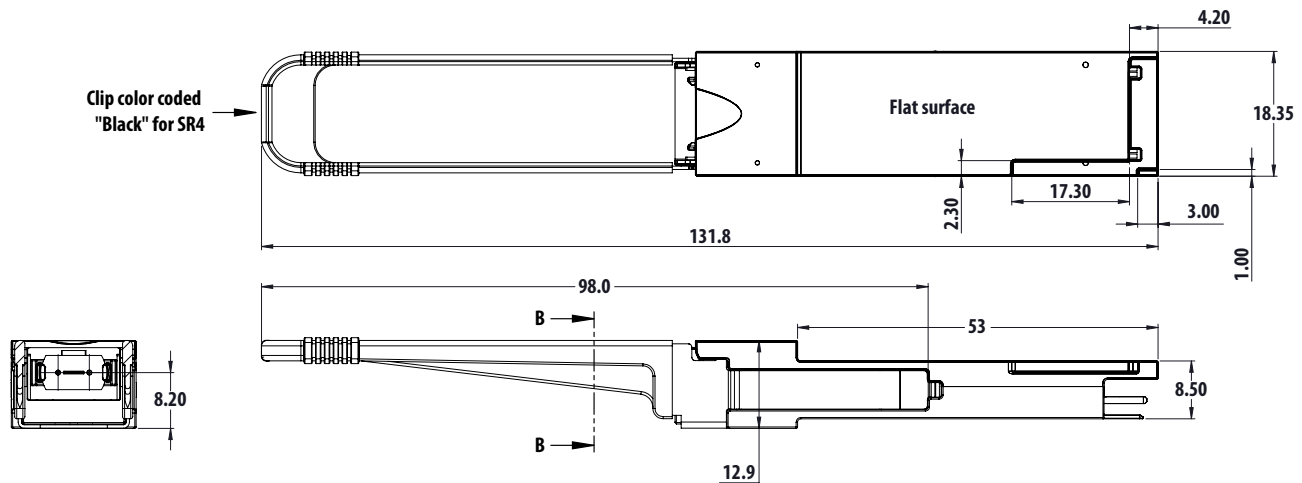
Evaluation Kit



Transceiver Block Diagram



Mechanical Dimensions:



All dimensions in millimeters

Key Product Parameters

Parameter	Value	Units	Notes
Data rate per lane	10.3125	Gbps	Per IEEE 802.3ba 40GBASE-SR4 standard
Link Length ^[1]	100 150	m m	OM3 OM4
Transceiver Case Operating Temperature	0-70	°C	
Power Supply Voltage	3.3	V	
Management Interface	Two-Wire Serial		Per SFF-8436 QSFP+ specification
Digital Monitoring			Per SFF-8436 QSFP+ specification
Transceiver Eye Safety	Class 1M ^[2]		Per EN 60825-1:2007
Transceiver Power Consumption, Max	1.5W		Power Level Class 1
Electrical Connector	38 contact connector		Per SFF-8436 QSFP+ specification
Electrical interface	XLPII High Speed Electrical		Per IEEE 802.3ba standard

Notes:

1. Connector loss of 1.5dB (OM3) / 1dB (OM4) allocated
2. WARNING: INVISIBLE LASER RADIATION, DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS

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

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