

# AFBR-776BxxxZ / AFBR-786BxxxZ

## Twelve-Channel Transmitter and Receiver

### Pluggable, Parallel-Fiber-Optics Modules



## Product Brief

### Description

The AFBR-776BxxxZ Twelve-Channel, Pluggable, Parallel-Fiber-Optics Transmitter and AFBR-786BxxxZ Twelve-Channel, Pluggable, Parallel-Fiber-Optics Receiver are high performance fiber optics modules for short-range parallel multi-lane data communication and interconnect applications. The modules operate at 6.25Gbps per channel over multimode fiber systems using a nominal wavelength of 850 nm. Aggregate bandwidth per transmitter-receiver link is 75G. The electrical interface uses a 10x10 MEG-Array® low-profile mezzanine connector. The optical interface uses a MTP® (MPO) 1x12 ribbon cable connector. The thermal interface can be a factory installed heatsink for air-cooled systems or thermal seating plane for user flexibility. The modules incorporate high performance, highly reliable, short wavelength optical devices coupled with proven circuit technology to provide long life and consistent service.

### Applications

- High Performance and High Productivity computer interconnects
- Datacom switch and router backplane connections
- Telecom switch and router backplane connections
- Dense 4 Gbps Fibre Channel compatible architectures
- Reach extensions for various protocols including PCI Express, HyperTransport and Serial RapidIO

### Part Number Ordering Options

#### Transmitter Part Numbers

- With fin heat sink/no EMI nose clip - AFBR-776BZ
- With fin heat sink / EMI nose clip - AFBR-776BEZ
- With pin heat sink / no EMI nose clip - AFBR-776BPZ
- With pin heat sink / EMI nose clip - AFBR-776BEPZ
- With no heat sink / no EMI nose clip - AFBR-776BHZ
- With no heat sink / with EMI nose clip - AFBR-776BEHZ

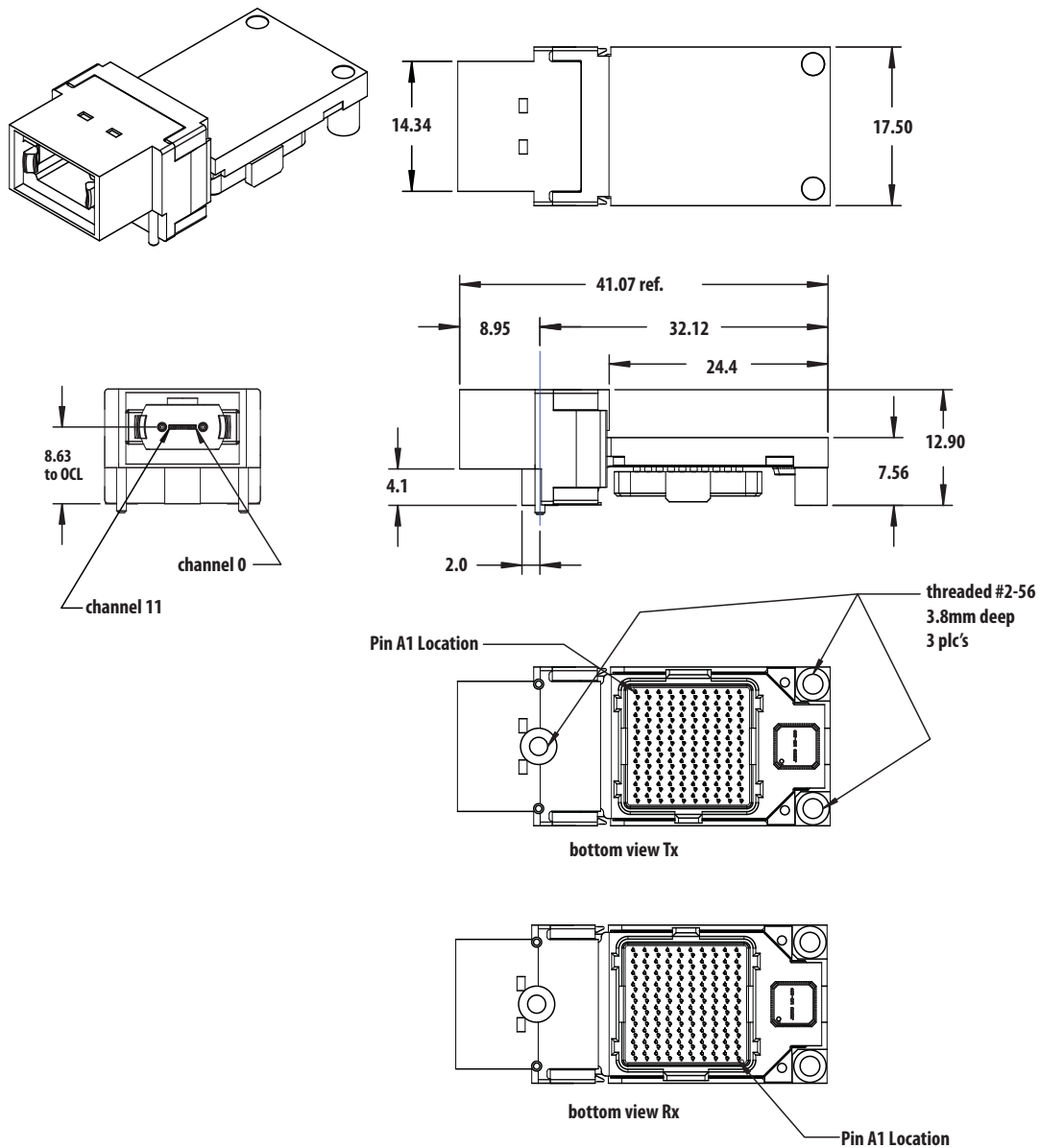
#### Receiver Part Numbers

- With fin heat sink / no EMI nose clip - AFBR-786BZ
- With fin heat sink/ EMI nose clip - AFBR-786BEZ
- With pin heat sink /no EMI nose clip - AFBR-786BPZ
- With pin heat sink / EMI nose clip - AFBR-786BEPZ
- With no heat sink / no EMI nose clip - AFBR-786BHZ
- With no heat sink / with EMI nose clip - AFBR-786BEHZ

### Features

- High Channel Capacity: 75 Gbps per module
- High port density: 19 mm lateral port pitch; < 0.51 mm/Gbps for Tx-Rx pair
- Low power consumption per Gbps: < 53 mW/Gb/s for Tx-Rx pair
- Based on industry-standard, pluggable, SNAP12 form factor with upgraded pinout for improved signal integrity and keyed to prevent mis-plugging with first generation SNAP12 devices
- Backed by PPOD MSA to enable multiple sources of supply
- Twelve independent channels per module
- Separate transmitter and receiver modules
- 850 nm VCSEL array in transmitter; PIN array in receiver
- Operates up to 6.25 Gbps with 64b/66b compatible coded data
- Links up to 100 m at 6.25 Gbps with 2000 MHz-km 50 um MMF
- Two power supplies, 2.5 V and 3.3 V, for low power consumption
- Dedicated signals for module address, module reset and host interrupt.
- Two Wire Serial (TWS) interface with maskable interrupt for expanded functionality including:
  - o Individual channel functions: disable, squelch disable, lane polarity inversion, margin
  - o Programmable equalization integrated with DC blocking caps at transmitter data input
  - o Programmable receiver output swing and de-emphasis level
  - o A/D readback: module temperature and supply voltages, per channel laser current and laser power, or received power
  - o Status: per channel Tx fault, electrical (transmitter) or optical (receiver) LOS, and alarm flags
- 0 to 80 °C case temperature operating range

## Package Outline, Host PCB Footprint and Panel Cutout



**Figure 1. Package Outline AFBR-776BHZ and AFBR-786BHZ**

Package outline dimensions are nominal expressed in mm unless otherwise stated.

The mating host PCB mounted electrical connector is a 100 position FCI MEG-Array® Plug (FCI PN: 84512-102) or equivalent.

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

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