

# 25/10G SFP28 BiDi 10km

25/10G Eth, SFP28, BiDi, 10km, LC, 1270/1330nm, SM

## CB-25E-10-xDyy02

### OVERVIEW

The CB-25E-10-xD2302 and CB-25E-10-xD3202 are bidirectional SFP28 transceivers designed for 25 Gigabit Ethernet and CPRI applications. These modules operate over a single strand of single mode fiber by using complementary wavelength pairs. One variant transmits at 1270nm and receives at 1330nm, and the other transmits at 1330nm and receives at 1270nm. Both versions support multirate operation for 10G and 25G services and provide up to 10km optical reach.

The transceivers comply with the SFP28 Multi-Source Agreement and support Digital Diagnostics Monitoring based on the SFF-8472 specification. The DDM interface provides real time monitoring of temperature, voltage, transmit power, receive power and bias current.

The modules operate from a single 3.3V supply and are available in Commercial (0°C to +70°C) and Industrial (-40°C to +85°C) temperature grades. They meet Class I laser safety requirements and are suitable for 25GBASE-BR10, CPRI and other bidirectional optical links.

### KEY SPECIFICATIONS

- 25G BiDi SFP28 transceivers with single LC connector
- Two wavelength options:
  - 1270nm TX / 1330nm RX
  - 1330nm TX / 1270nm RX
- Support for 25/10G Ethernet and CPRI opt 10 applications
- Up to 10km distance over SM fiber
- Less than 1.4W power consumption
- Temp operating conditions: Commercial (0°C to +70°C) and Industrial (-40°C to +85°C)

## TECHNICAL DATA

| Parameter             | Value                                                                  | Parameter                | Value                                                     |
|-----------------------|------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------|
| Form Factor           | BiDi SFP28                                                             | <b>Transmitter Data:</b> |                                                           |
| Transmission Media    | SM (LC)                                                                | Tx Power                 | -4 to +2dBm <sup>3)</sup>                                 |
| Typical Reach         | 10km                                                                   | Tx Wavelength            | 1260 -1280nm <sup>1)</sup><br>1320 -1340nm <sup>2)</sup>  |
| Nominal Wavelength    | Tx:1270nm Rx:1330nm <sup>1)</sup><br>Tx:1330nm Rx:1270nm <sup>2)</sup> | Extinction Ratio         | ≥ 3.5dB                                                   |
| Data Rate Support     | 25.78/10.31Gbps                                                        | <b>Receiver Data:</b>    |                                                           |
| Protocol Support      | 25GbE, CPRI opt 10                                                     | Rx Sensitivity           | -13.3dBm <sup>3) 4)</sup>                                 |
| Power Consumption     | <1.4W                                                                  | Rx Overload, max         | 2dBm <sup>4)</sup>                                        |
| Operating Temperature | 0°C to 70°C /<br>-40°C to 85°C                                         | Rx Wavelength            | 1320 -1340nm <sup>1)</sup><br>1260 - 1280nm <sup>2)</sup> |
| Storage Temperature   | -40°C to 85°C                                                          | LOS Assert               | -30dBm                                                    |
| DDM                   | Yes                                                                    | LOS De-assert            | -15dBm                                                    |
|                       |                                                                        | LOS Hysteresis           | 0.5dB                                                     |

<sup>1)</sup> CB-25E-10-xD2302 - Black-coloured latch

<sup>2)</sup> CB-25E-10-xD3202 - Blue-coloured latch

<sup>3)</sup> Average power

<sup>4)</sup> @ 25.78Gbps, BER ≤5E-5, PRBS 2<sup>31</sup>-1

### Safety/Regulatory Compliance

- Class 1 laser safe
- RoHS Compliance

## ABSOLUTE MAX RATING

Exceeding these limits can cause permanent damage to the transceiver

| Parameter      | Value         | Parameter            | Value |
|----------------|---------------|----------------------|-------|
| Supply Voltage | -0.5V to 4.5V | Relative Humidity    | 85%   |
| Storage Temp   | -40°C to 85°C | Max Rx Optical Power | +2dBm |

## ORDERING INFORMATION

| Ordering Code    | Description                                               |
|------------------|-----------------------------------------------------------|
| CB-25E-10-CD2302 | 25/10G SFP28, BiDi, 10km, LC, 1270/1330nm, SM, 0 to 70C   |
| CB-25E-10-ID2302 | 25/10G SFP28, BiDi, 10km, LC, 1270/1330nm, SM, -40 to 85C |
| CB-25E-10-CD3202 | 25/10G SFP28, BiDi, 10km, LC, 1330/1270nm, SM, 0 to 70C   |
| CB-25E-10-ID3202 | 25/10G SFP28, BiDi, 10km, LC, 1330/1270nm, SM, -40 to 85C |

All information contained in this document is subject to change without prior notice at the sole discretion of CloudPhotonix. The company warrants the performance of its products solely in accordance with the current published specifications and applicable warranty terms. CloudPhotonix makes no other warranties, express or implied, including but not limited to any implied warranties of merchantability, fitness for a particular purpose, or non-infringement of third-party rights. For the most current certification and compliance information, please contact CloudPhotonix directly.

## CONTACT INFORMATION

Email: [sales@cloudphotonix.com](mailto:sales@cloudphotonix.com)  
Phone: +91-1203116709, +91-1203116718  
CloudPhotonix India Pvt. Ltd.  
Block A-51, Sector 67  
Noida – 201301, Uttar Pradesh, India