

# 100GbE SR4 QSFP28 MMF Optical Transceiver

## MMA1B00-C100D

Mellanox® MMA1B00-C100D is a 4-channel, pluggable, QSFP28 optical transceiver designed for use in 100GbE Ethernet. This module incorporates Mellanox integrated circuit technology, in order to provide high performance at low power. The transceiver operates over parallel multi-mode (MMF) fiber, using a nominal wavelength of 850nm, and is SFF-8665 compliant.

MMA1B00-C100D has a standard QSFP28 connector on the electrical side towards the host system supporting CAUI-4. The optical interface is composed of four optical channels/fibers in each direction, intended for a parallel MMF cable via a standard MPO connector. Each channel/fiber operates at signaling rates up to 25.78125GBd.

The transceiver has selectable re-timing in both transmit and receive directions as well as it provides digital diagnostic monitoring of supply voltage, temperature, transmit/receive power, and laser bias.

Rigorous production testing ensures the best out-of-the-box installation experience, performance, and durability.

Table 1 - Absolute Maximum Ratings

| Parameter             | Minimum | Maximum | Units |
|-----------------------|---------|---------|-------|
| Supply voltage        | -0.3    | 3.6     | V     |
| Data input voltage    | -0.3    | 3.465   | V     |
| Control input voltage | -0.3    | 4       | V     |
| Damage threshold      | 3.4     | --      | dBm   |

Table 2 - Operational Information

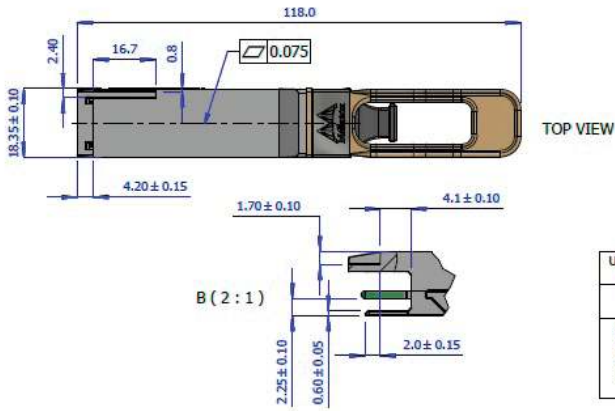
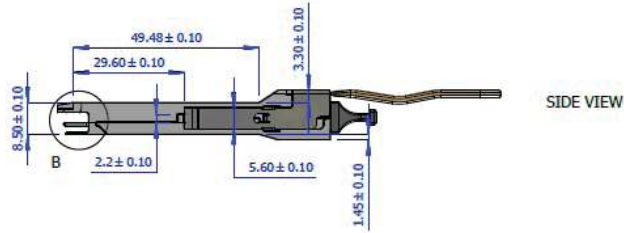
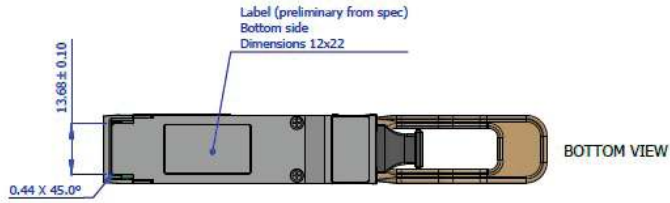
| Parameter                                 | Minimum | Typical | Maximum | Units |
|---|---------|---------|---------|-------|
| Supply voltage                            | 3.135   | 3.3     | 3.465   | V     |
| Power dissipation (no retiming)           | ---     | 1.5     | 1.8     | W     |
| Power dissipation (retiming on all lanes) | ---     | 2.2     | 2.5     | W     |
| Supply noise tolerance (10Hz-10MHz)       | 66      | ---     | ---     | mVpp  |
| Operating case temperature                | 0       | ---     | 70      | °C    |
| Operating relative humidity               | 5       | ---     | 85      | %RH   |



## HIGHLIGHTS

- Up to 100Gb/s data rate
- Very low power consumption 2.2W
- Designed with Mellanox ICs
- Selectable retiming for both Tx and Rx
- Programmable Tx input equalizer
- Programmable Rx output amplitude
- Programmable Rx output emphasis
- SFF-8665 compliant QSFP28
- Single 3.3V supply
- QSFP28 power class 3
- BER better than 1E-15
- Class 1 laser safety
- Up to 100m on OM4 and 70m on OM3 multimode fiber at 100Gb/s
- Up to 100m on OM3 at 40Gb/s
- SFF-8636 compliant digital diagnostic monitoring (DDM)
- Hot pluggable
- RoHS compliant
- IEEE 802.3 100GBASE-SR4 compliant
- IEEE 802.3 40GBASE-SR4 compliant
- SFF-8636 compliant I<sup>2</sup>C management interface

# Mechanical Schematics



UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN mm  
USE DIMENSIONS ONLY  
DO NOT SCALE

GENERAL TOLERANCE: ±  
LINEAR: ±0.1  
RADII: ±0.5°  
ANGLES: ±0.5°  
BTWN HOLE CENTERS: ±0.05

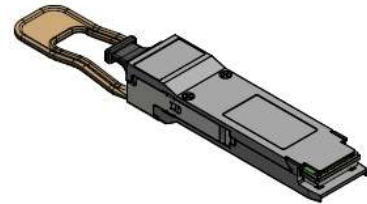
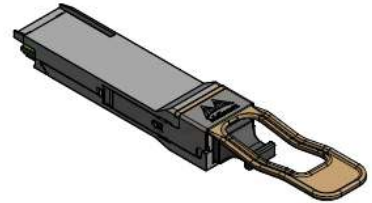


Table 3 - Part Number and Description

| OPN           | Description  |
|---------------|--|
| MMA1B00-C100D | Mellanox® transceiver, 100GbE, QSFP28, MPO, 850nm, SR4, up to 100m, DDMI |

## Warranty Information

Mellanox LinkX optical transceivers include a 1-year limited hardware warranty, which covers parts repair or replacement.



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