



100 GbE SR4 QSFP28 MMF Optical Transceiver

MMA1B00-C100D

NVIDIA® Mellanox® MMA1B00-C100D is a 4-channel, pluggable, QSFP28, optical transceiver designed for use in 100 GbE Ethernet links with up to 100 m reach on multi-mode fiber (MMF). This transceiver incorporates Mellanox integrated circuit technology, in order to provide high performance at low power.

MMA1B00-C100D converts 4 input channels of 25 Gb/s electrical data to 4 optical signals at 850 nm. Reversely, the receiver side de-multiplexes 4 optical inputs into 4 electrical differential output signals.

MMA1B00-C100D has selectable retiming as specified in the SFF-8636 MSA. This enables the transceiver to be used in both 40 GbE and 100 GbE applications.

Digital diagnostic monitoring functions for temperature, supply voltage, and optical power are available via the two-wire (I²C) management interface, as specified by the QSFP28 MSA.

The optical interface is a multi-fiber push-on (MPO) connector with the 4 optical channels/fibers in each direction. The MPO connector is the un-angled (UPC) type.

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
Storage temperature	-40	85	°C

Table 2 - Operational Information

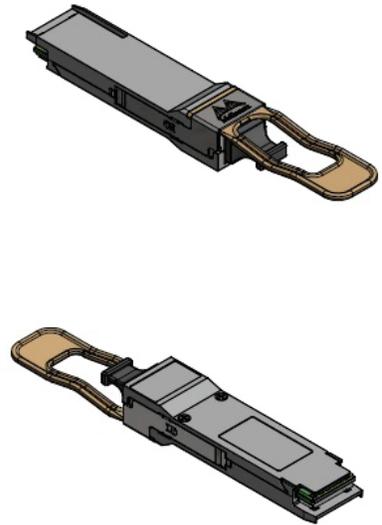
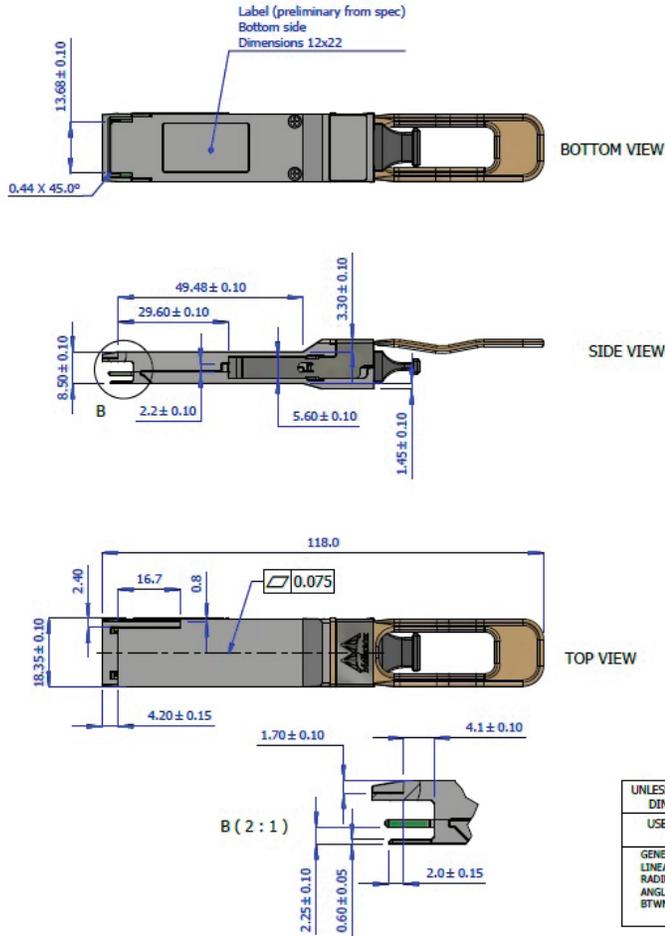
Parameter	Minimum	Typical	Maximum	Units
Supply voltage	3.135	3.3	3.465	V
Power dissipation (no retiming)	--	1.5	1.8	W
Power dissipation (retiming on all lanes)	--	2.2	2.5	W
Supply noise tolerance (10 Hz - 10 MHz)	66	--	--	mVpp
Operating case temperature	0	--	70	°C
Operating relative humidity	5	--	85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



HIGHLIGHTS

- Up to 100 Gb/s data rate
- Selectable retiming for both Tx & Rx
- Programmable Tx input equalizer
- Programmable Rx output amplitude
- Programmable Rx output emphasis
- SFF-8665 compliant QSFP28
- Single 3.3 V supply, hot pluggable
- QSFP28 power class 3 (2.5 W max)
- 2.2 W power dissipation (typ, with retiming)
- BER better than 1E-15
- Class 1 laser safety
- Up to 100m on OM4 and 70m on OM3 multimode fiber at 100 Gb/s
- Up to 100m on OM3 at 40 Gb/s
- Hot pluggable
- RoHS compliant
- Applications:
 - 100GBASE-SR4 100G Ethernet
 - 40GBASE-SR4 40G Ethernet
 - Qualified for use in Mellanox Ethernet end-to-end systems

Mechanical Schematics



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm	
USE DIMENSIONS ONLY DO NOT SCALE	
GENERAL TOLERANCE:	±
LINEAR:	±0.1
RADIUS:	±0.5°
ANGLES:	±0.05
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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