



# 100GbE QSFP28 CWDM4 Optical Transceiver

## MMA1L30-CM

Mellanox® MMA1L30-CM transceiver is a single mode, 4-channel (CWDM4), QSFP28 optical transceiver designed for use in 100 Gigabit Ethernet (GbE) links on up to 2km of single mode fiber. It is also qualified for use in Mellanox InfiniBand EDR end-to-end systems.

The module converts 4 input channels of 25Gb/s electrical data to 4 channels of CWDM optical signals and then multiplexes them into a single fiber, using a nominal wavelength of 1310nm, for 100Gb/s optical transmission. Reversely on the receiver side, the module de-multiplexes a 100Gb/s optical input into 4 channels of CWDM optical signals and then converts them to 4 output channels of electrical data.

It is compliant with the QSFP28 MSA, IEEE 802.3bm CAUI-4. Digital diagnostic functions are available via the I<sup>2</sup>C interface, as specified by the QSFP28 MSA.

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

**Table 1 - Absolute Maximum Ratings**

Parameter	Symbol	Min	Max	Units
Storage Temperature	T <sub>s</sub>	-40	85	°C
Operating Case Temperature	T <sub>OP</sub>	0	70	°C
Supply Voltage	V <sub>CC</sub>	-0.5	3.6	V
Relative Humidity (non-condensing)	RH	5	95	%
Control Input Voltage	V <sub>I</sub>	-0.3	V <sub>CC</sub> +0.5	V
Control Output Voltage	I <sub>O</sub>	-20	20	mA

**Table 2 - Recommended Operating Conditions and Power Supply Requirements**

Parameter	Symbol	Min	Typical	Max	Units
Voltage	V <sub>CC</sub>	3.135	3.3	3.465	V
Data Rate, each lane	--	-100ppm	25.78	+100ppm	Gb/s
Control Input Voltage High	V <sub>IH</sub>	V <sub>CC</sub> *0.7	--	V <sub>CC</sub> +0.3	V
Control Input Voltage Low	V <sub>IL</sub>	-0.3	--	V <sub>CC</sub> *0.3	V
Power Supply Noise Tolerance (10Hz-10MHz)	--	--	--	66	mVpp
Rx Differential Data Output Load	--	--	100	--	Ω
Link Distance with G.652 rated fiber	L <sub>max</sub>	2	--	2000	m



## HIGHLIGHTS

- Compliant with QSFP28 Standard: SFF-8665 Revision 1.9, SFF-8636 Revision 2.6
- Compliant with CWDM4 MSA Revision 1.1
- High speed I/O electrical interface (CAUI-4)
- Single 3.3V supply voltage
- Maximum power consumption 3.5W
- 0°-70°C case operating temperature
- CWDM EML laser and PIN receiver array
- QSFP28 MSA package with duplex LC connector
- Two Wire Serial Interface with Digital Diagnostic Monitoring
- RoHS compliant
- Class 1 Laser
- Applications:
  - 100G Ethernet
  - Qualified for Mellanox InfiniBand EDR end-to-end systems

# Mechanical Schematics

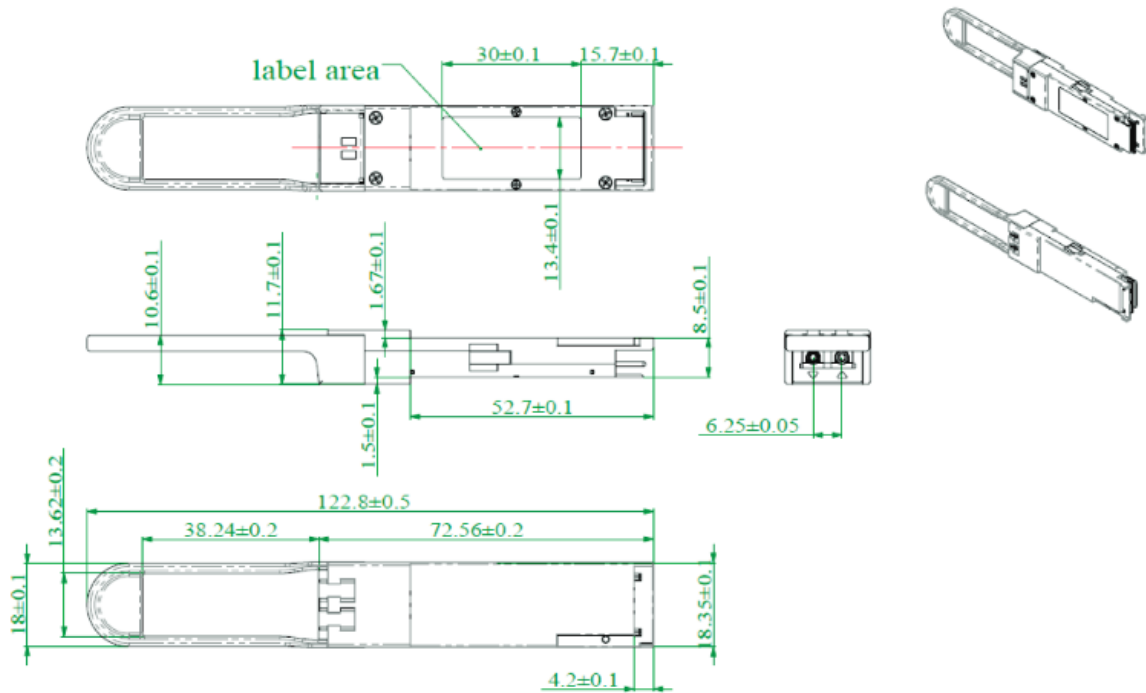


Table 3 - Part Number and Description

OPN	Description
MMA1L30-CM	Mellanox® optical module, 100GbE, 100Gb/s, QSFP28, LC-LC, 1310nm, CWDM4, up to 2km.

## Warranty Information

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



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