

### **QSFP56-200GB-AOC7M-I-AO**

MSA Compliant 200GBase-AOC QSFP56 to QSFP56 DSP Active Optical Cable (850nm, MMF, 7m, -40 to 85C)

#### **Features:**

- Up to 200Gbps Data Rate
- SFF-8665 Compliant QSFP56 Port
- 4x50Gbps PAM4 Modulation
- Single 3.3 Power Supply
- 4.5W Power Dissipation Each End w/Retiming
- CMIS 4.0 Compliant
- Operating Temperature: -40 to 85 Celsius
- Hot-Pluggable
- RoHS Compliant and Lead-Free



#### **Applications:**

- 200GBase Ethernet

#### **Product Description**

This is an MSA compliant 200GBase-AOC QSFP56 to QSFP56 active optical cable that operates over multi-mode fiber with a maximum reach of 7.0m (23.0ft). At a wavelength of 850nm, it has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. This active optical cable is built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

AddOn's transceivers are RoHS compliant and lead-free.

### Absolute Maximum Ratings

| Parameter           | Symbol | Min. | Max. | Unit |
|---------------------|--------|------|------|------|
| Storage Temperature | Tstg   | -40  | 85   | °C   |
| Relative Humidity   | RH     | 0    | 85   | %    |

### Recommended Operating Conditions (Tc=25°C, Unless Noted)

| Parameter                  | Symbol | Min.  | Typ.    | Max.               | Unit |
|----------------------------|--------|-------|---------|--------------------|------|
| Case Temperature           | Tc     | -40   |         | 85                 | °C   |
| Power Supply Voltage       | Vcc    | 3.135 | 3.3     | 3.465              | V    |
| Power Consumption          |        |       |         | 4.5                | W    |
| Signaling Rate Per Channel |        |       | 26.5625 |                    | GBd  |
| Data Rate Accuracy         |        | -100  |         | 100                | ppm  |
| Error Bit Rate             |        |       |         | 2.4E <sup>-4</sup> |      |

### Notes:

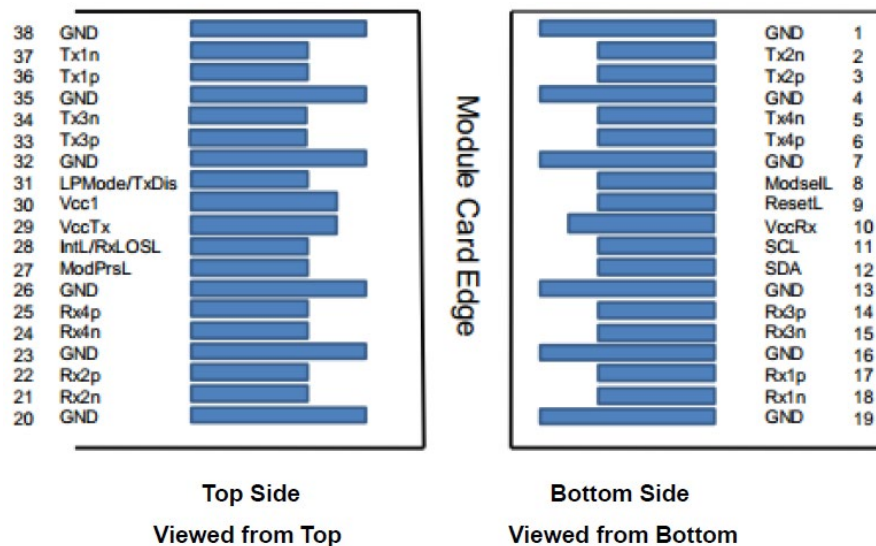
1. PRBS31Q @26.5625GBd PAM4.

## Pin Descriptions

| Pin | Logic       | Symbol       | Name/Description                     |
|-----|-------------|--------------|--------------------------------------|
| 1   |             | GND          | Module Ground.                       |
| 2   | CML-I       | Tx2n         | Transmitter Inverted Data Input.     |
| 3   | CML-I       | Tx2p         | Transmitter Non-Inverted Data Input. |
| 4   |             | GND          | Module Ground.                       |
| 5   | CML-I       | Tx4n         | Transmitter Inverted Data Input.     |
| 6   | CML-I       | Tx4p         | Transmitter Non-Inverted Data Input. |
| 7   |             | GND          | Module Ground.                       |
| 8   | LVTTL-I     | ModSelL      | Module Select.                       |
| 9   | LVTTL-I     | ResetL       | Module Reset.                        |
| 10  |             | VccRx        | +3.3V Receiver Power Supply.         |
| 11  | LVC MOS-I/O | SCL          | 2-Wire Serial Interface Clock.       |
| 12  | LVC MOS-I/O | SDA          | 2-Wire Serial Interface Data.        |
| 13  |             | GND          | Module Ground.                       |
| 14  | CML-O       | Rx3p         | Receiver Non-Inverted Data Output.   |
| 15  | CML-O       | Rx3n         | Receiver Inverted Data Output.       |
| 16  |             | GND          | Module Ground.                       |
| 17  | CML-O       | Rx1p         | Receiver Non-Inverted Data Output.   |
| 18  | CML-O       | Rx1n         | Receiver Inverted Data Output.       |
| 19  |             | GND          | Module Ground.                       |
| 20  |             | GND          | Module Ground.                       |
| 21  | CML-O       | Rx2n         | Receiver Inverted Data Output.       |
| 22  | CML-O       | Rx2p         | Receiver Non-Inverted Data Output.   |
| 23  |             | GND          | Module Ground.                       |
| 24  | CML-O       | Rx4n         | Receiver Inverted Data Output.       |
| 25  | CML-O       | Rx4p         | Receiver Non-Inverted Data Output.   |
| 26  |             | GND          | Module Ground.                       |
| 27  | LVTTL-O     | ModPrsL      | Module Present.                      |
| 28  | LVTTL-O     | IntL/RxLOSL  | Interrupt.                           |
| 29  |             | VccTx        | +3.3V Transmitter Power Supply.      |
| 30  |             | Vcc1         | +3.3V Power Supply.                  |
| 31  | LVTTL-I     | LPMode/TxDis | Low-Power Mode.                      |
| 32  |             | GND          | Module Ground.                       |
| 33  | CML-I       | Tx3p         | Transmitter Non-Inverted Data Input. |
| 34  | CML-I       | Tx3n         | Transmitter Inverted Data Input.     |
| 35  |             | GND          | Module Ground.                       |

|    |       |      |                                      |
|----|-------|------|--------------------------------------|
| 36 | CML-I | Tx1p | Transmitter Non-Inverted Data Input. |
| 37 | CML-I | Tx1n | Transmitter Inverted Data Input.     |
| 38 |       | GND  | Module Ground.                       |

## Pin Assignments



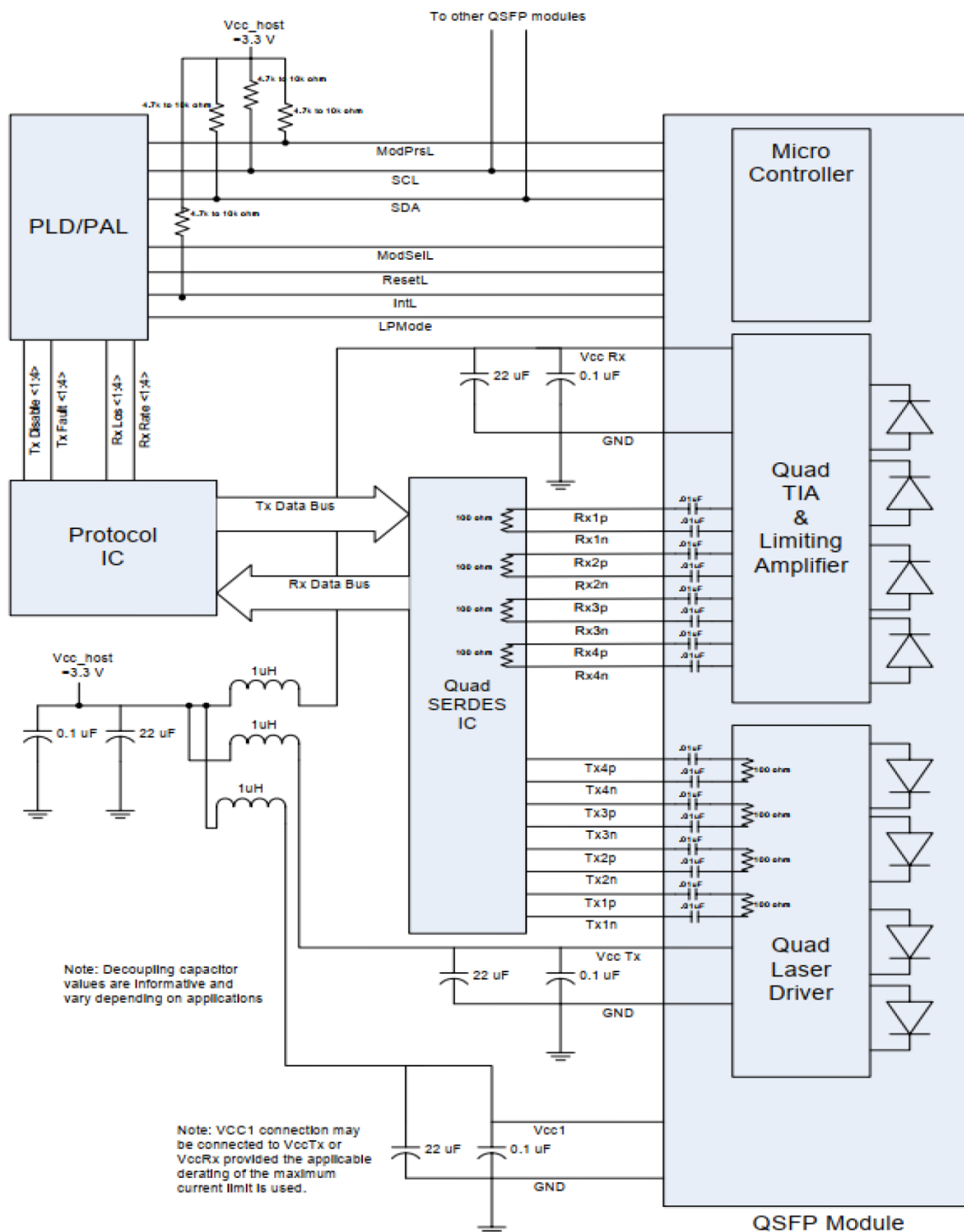
## Digital Diagnostic Monitor Accuracy

| Parameter                                      | Accuracy | Unit |
|------------------------------------------------|----------|------|
| Internally Measured Transceiver Temperature    | ±3       | °C   |
| Internally Measured Transceiver Supply Voltage | ±3       | %    |
| Measured Tx Bias Current                       | ±10      | %    |
| Measured Tx Output Power                       | ±3       | dB   |
| Measured Rx Received Average Optical Power     | ±3       | dB   |

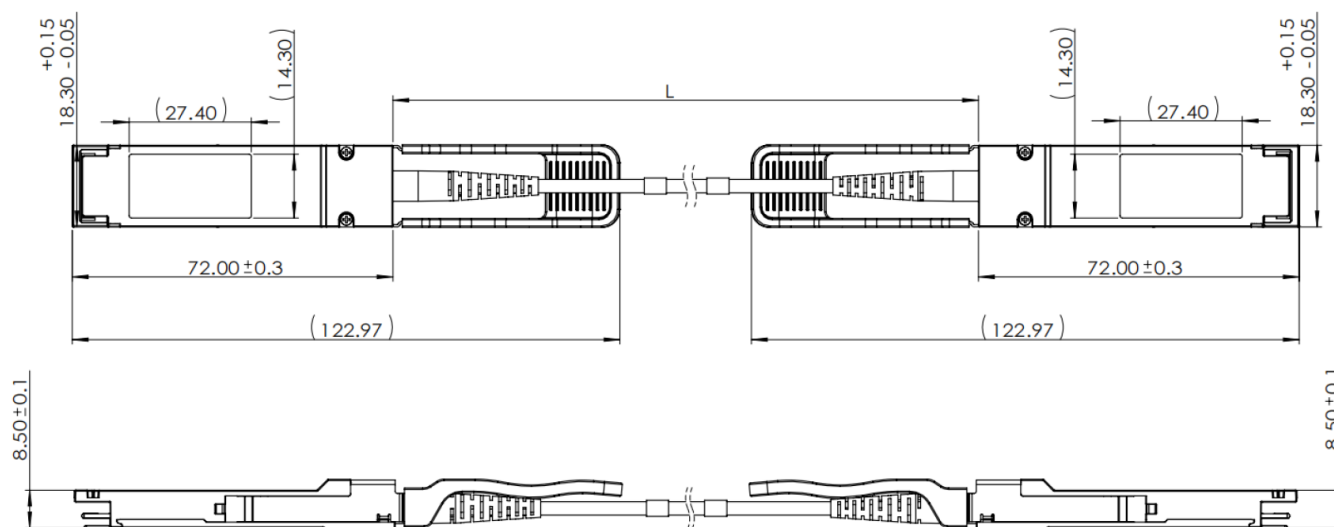
## Notes:

1. The above characteristics are defined over the recommended operating conditions.

## Electrical Interface



## Mechanical Specifications



Unit is millimeter.

All dimensions are  $\pm 0.1\text{mm}$  unless otherwise specified.

## About AddOn Networks

In 1999, AddOn Networks entered the market with a single product. Our founders fulfilled a severe shortage for compatible, cost-effective optical transceivers that compete at the same performance levels as leading OEM manufacturers. Adhering to the idea of redefining service and product quality not previously had in the fiber optic networking industry, AddOn invested resources in solution design, production, fulfillment, and global support.

Combining one of the most extensive and stringent testing processes in the industry, an exceptional free tech support center, and a consistent roll-out of innovative technologies, AddOn has continually set industry standards of quality and reliability throughout its history.

Reliability is the cornerstone of any optical fiber network and is ingrained in AddOn's DNA. It has played a key role in nurturing the long-term relationships developed over the years with customers. AddOn remains committed to exceeding industry standards with certifications ranging from NEBS Level 3 to ISO 9001:2015 with every new development while maintaining the signature reliability of its products.



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