

DSFP-100GB-AOC15M-C

MSA and TAA 100GBase-AOC DSFP Active Optical Cable (850nm, MMF, 15m, CMIS 4.0)

Features:

- Compliant with IEEE 802.3-2018
- 2x26.5625GBD PAM4 Active Optical Cable
- Compliant to the DSFP MSA Transceiver Specifications
- Low Power Dissipation: 2.5W Per Cable End
- Hot-Pluggable
- Operating Temperature: 0 to 70 Celsius
- RoHS Compliant and Lead-Free



Applications:

- 100GBase Ethernet

Product Description

This is a MSA Compliant 100GBase-AOC DSFP to DSFP active optical cable that operates over active fiber with a maximum reach of 15m. It has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. We stand behind the quality of our products and proudly offer a limited lifetime warranty. This cable is TAA (Trade Agreements Act) compliant and is built to comply with MSA (Multi-Source Agreement) standards.

ProLabs' transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S. – made or designated country end products."



Absolute Maximum Ratings

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|----------------------------|------------------|------|---------|------|------------------|---------|
| Supply Voltage | V _{CC} | -0.5 | | 3.6 | V | |
| Storage Temperature | T _{stg} | -40 | | 85 | °C | |
| Operating Case Temperature | T _c | 0 | | 70 | °C | |
| Relative Humidity | RH | 15 | | 85 | % | |
| Data Rate | DR | | 26.5625 | | GBd | ±100ppm |
| Bit Error Rate | BER | | | | 1E ⁻⁸ | |

Electrical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|---|-------------------|------|------|------|------|-------|
| Power Dissipation | P _{DISS} | | | 2.5 | W | |
| Module Supply Voltage | V _{CC} | 3.13 | 3.3 | 3.47 | V | |
| Supply Current | I _{CC} | | | 796 | mA | |
| Receiver | | | | | | |
| AC Common-Mode Input Voltage | | | | 17.5 | mV | RMS |
| Differential Peak-to-Peak Input Voltage | | | | 900 | mV | |
| FEC Symbol Error | | | | 5 | | |

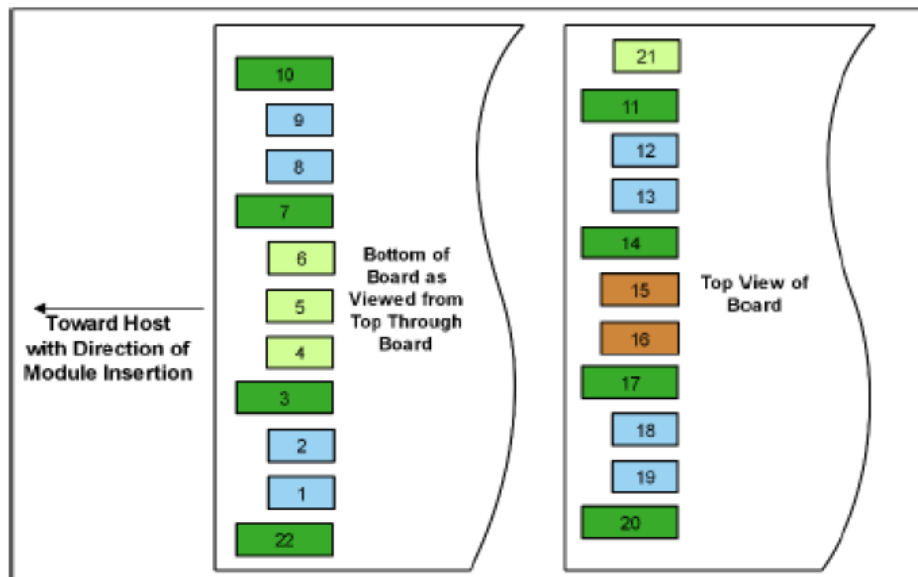
Optical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|------------------------------|------------------|------|-------|------|------|-------|
| Transmitter | | | | | | |
| Center Wavelength | λ _C | 840 | | 860 | nm | |
| Optical Power Output | P _O | -6.5 | | 4 | dBm | |
| Spectral Width | Δλ ₂₀ | | | 0.6 | nm | |
| Extinction Ratio | ER | 3 | | | dB | |
| Receiver | | | | | | |
| Near-End ESMW | EW | | 0.265 | | UI | |
| Near-End Eye Height | EH | 70 | | mV | | |
| Far-End ESMW | | | 0.2 | | | |
| Far-End Eye Height | | 30 | | UI | | |
| Far-End Pre-Cursor ISI Ratio | | -4.5 | | 3.5 | % | |

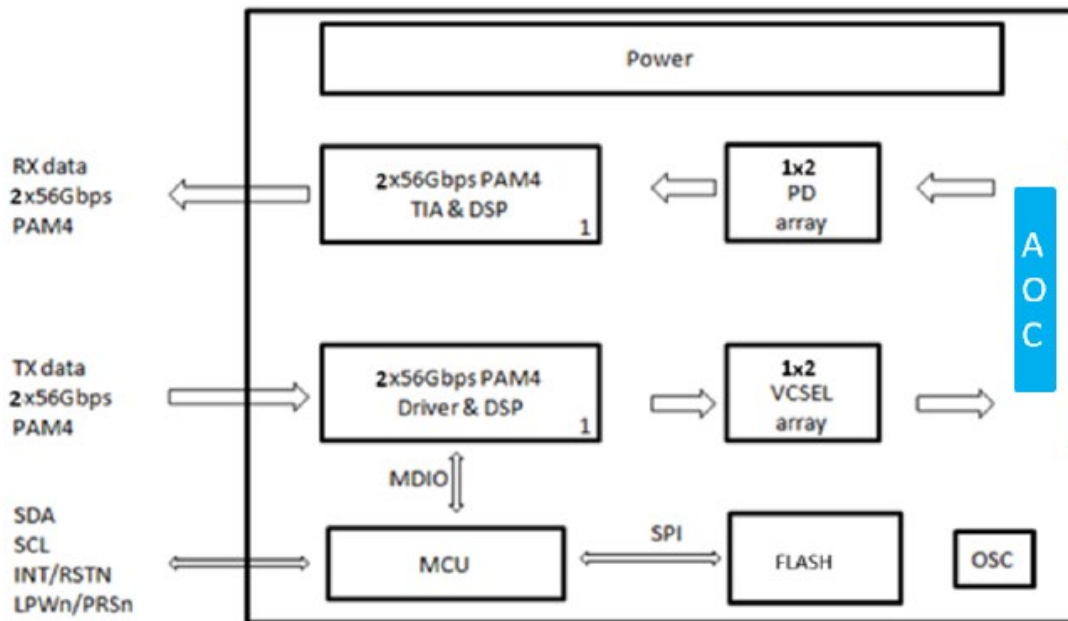
Pin Descriptions

| Pin | Logic | Symbol | Sequence | Name/Description | Notes |
|-----|-----------------|-----------|----------|---|-------|
| 1 | CML-I | TD2- | 3 | Transmitter Inverted Data Input Lane 2. | |
| 2 | CML-I | TD2+ | 3 | Transmitter Non-Inverted Data Input Lane 2. | |
| 3 | | GND | 1 | Module Ground. | |
| 4 | LVTTL-I/O | SDA | 3 | 2-Wire Serial Interface Data. | |
| 5 | LVTTL-I/O | SCL | 3 | 2-Wire Serial Interface Clock. | |
| 6 | Multi-Level-I/O | LPWn/PRSn | 3 | Low-Power Mode/Module Present (MOD_ABS). | |
| 7 | | GND | 1 | Module Ground. | |
| 8 | CML-O | RD2+ | 3 | Receiver Non-Inverted Data Output Lane 2. | |
| 9 | CML-O | RD2- | 3 | Receiver Inverted Data Output Lane 2. | |
| 10 | | GND | 1 | Module Ground. | |
| 11 | | GND | 1 | Module Ground. | |
| 12 | CML-O | RD1- | 3 | Receiver Inverted Data Output Lane 1. | |
| 13 | CML-O | RD1+ | 3 | Receiver Non-Inverted Data Output Lane 1. | |
| 14 | | GND | 1 | Module Ground. | |
| 15 | | Vcc | 2 | Module +3.3V Power Supply. | |
| 16 | | Vcc | 2 | Module +3.3V Power Supply. | |
| 17 | | GND | 1 | Module Ground. | |
| 18 | | TD1+ | 3 | Transmitter Non-Inverted Data Input Lane 1. | |
| 19 | | TD1- | 3 | Transmitter Inverted Data Input Lane 1. | |
| 20 | | GND | 1 | Module Ground. | |
| 21 | Multi-Level-I/O | INT/RSTn | 3 | Dual-Function Module Interrupt and Reset Pin. | |
| 22 | | GND | 1 | Module Ground. | |

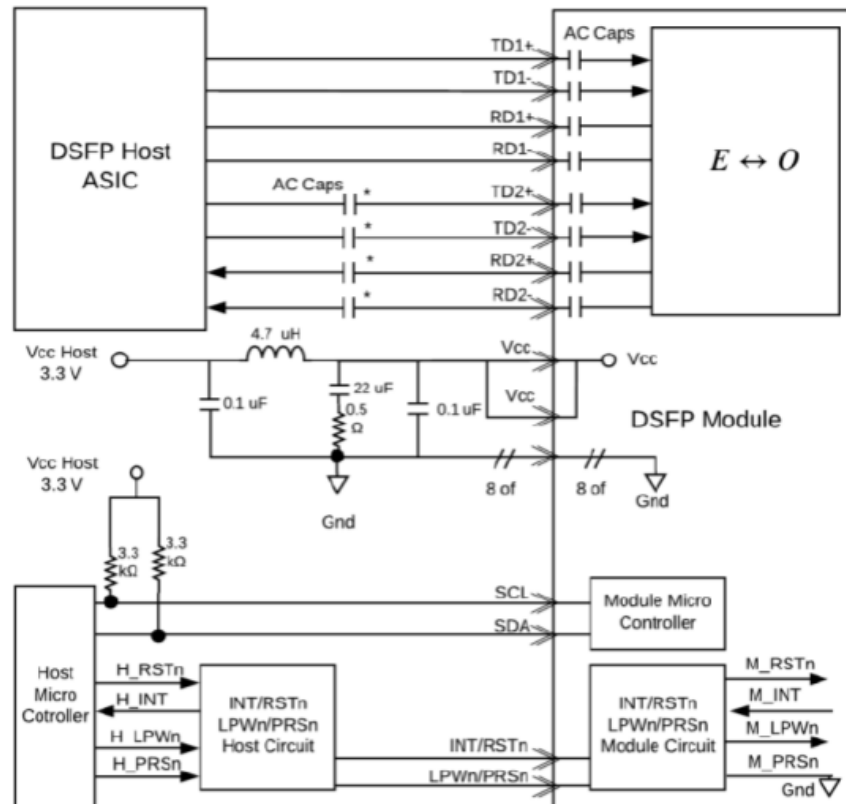
Electrical Pin-Out Details



Block Diagram

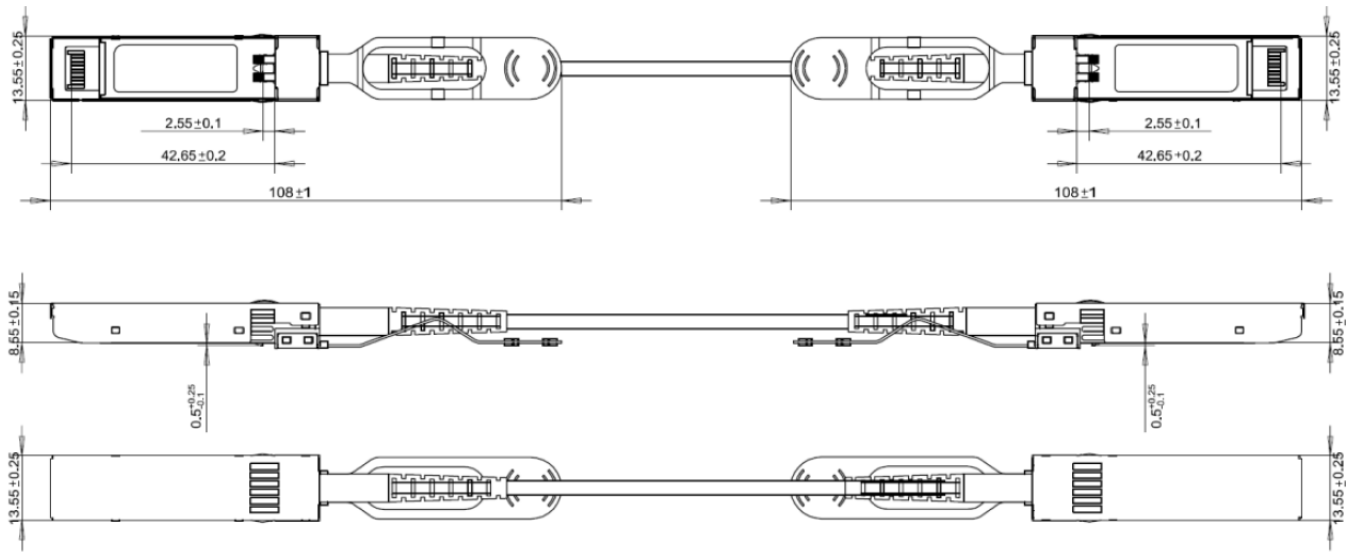


Recommended Interface Circuit



Notes: Host AC caps allow SFP+ backward compatibility. If SFP+ modules will never be plugged in, the host AC caps can be omitted.

Mechanical Specifications



About ProLabs

Our experience comes as standard; for over 15 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with over 90 optical switching and transport platforms.

Complete Portfolio of Network Solutions

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 400G while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure that you get immediate answers to your questions and compatible product when needed. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.



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