

## Features

- Electrical interface compliant to SFF-8431
- Hot Pluggable
- 850nm VCSEL transmitter, PIN photo-detector receiver
- Up to 300m on OM3 MMF
- Operating case temperature: 0 to 70°C
- All-metal housing for superior EMI performance
- RoHS compliant (lead free)



## Applications

- 10 Gigabit Ethernet
- 4G and 8G Fibre Channel Applications
- 1x InfiniBand QDR. DDR, SDR
- High-performance computing clusters
- Servers, switches, storage and host card adapters

## 1. SFP+ AOC Specifications

| Parameter                   | Description                             |
|-----------------------------|-----------------------------------------|
| Module Form Factor          | SFP+ (Supports SFF8431/SFF8432/SFF8472) |
| Protocols Supported         | InfiniBand, Ethernet, Fiber Channel     |
| Channel Data Rate           | Rate 1 to 10.3125Gbps                   |
| BER                         | <10 <sup>-12</sup>                      |
| Operating Case Temperature  | 0 to + 70°C                             |
| Storage Temperature         | -20 to + 85°C                           |
| Supply Voltage              | 3.3V                                    |
| Supply current              | 230mA per end typical                   |
| Management Interface Serial | I <sup>2</sup> C (Supports SFF8472)     |

## 2. Optical Characteristics

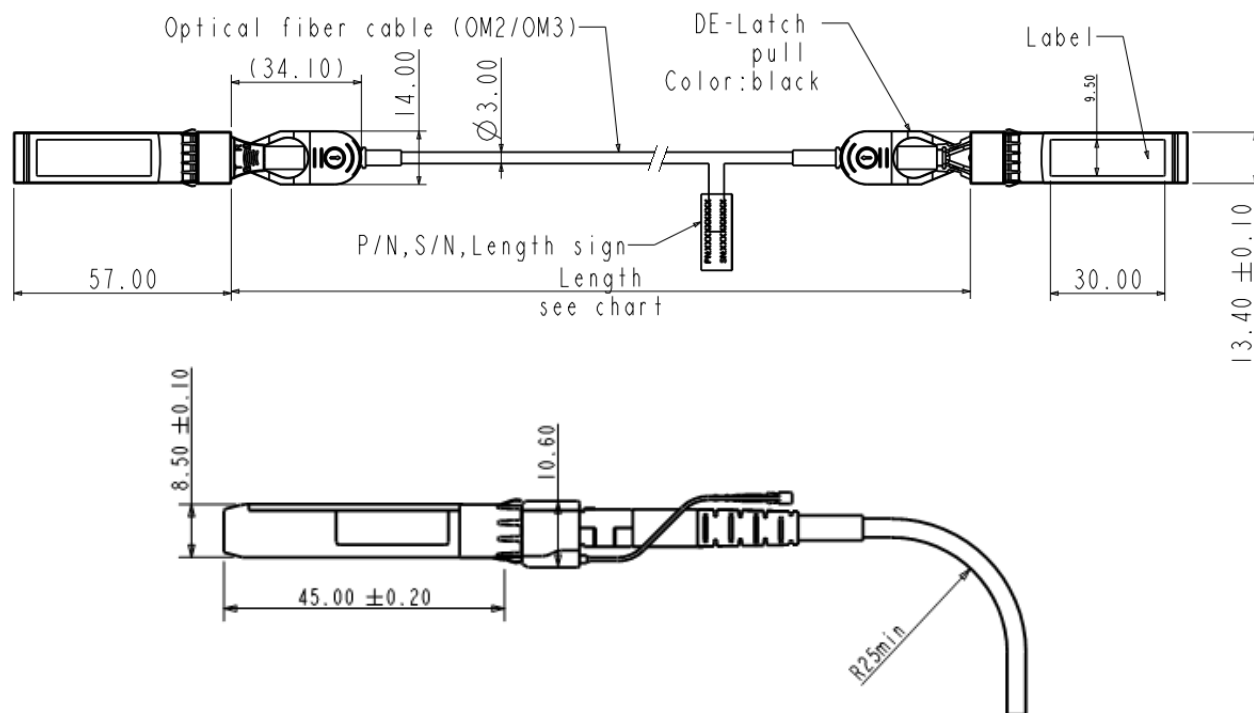
The following optical characteristics are defined over the Recommended Operating Environment unless otherwise specified.

| Parameter                      | Symbol      | Min. | Typical | Max    | Unit  | Notes           |
|--------------------------------|-------------|------|---------|--------|-------|-----------------|
| <b>Transmitter</b>             |             |      |         |        |       |                 |
| Center Wavelength              | $\lambda_t$ | 840  | 850     | 860    | nm    |                 |
| RMS spectral width             | Pm          | -    | -       | Note 1 | nm    |                 |
| Average Optical Power          | Pavg        | -6.5 | -       | -1     | dBm   | 2               |
| Extinction Ratio               | ER          | 3.5  | -       | -      | dB    | 3               |
| Transmitter Dispersion Penalty | TDP         | -    | -       | 3.9    | dB    |                 |
| Relative Intensity Noise       | Rin         | -    | -       | -128   | dB/Hz | 12dB reflection |
| Optical Return Loss Tolerance  |             | -    | -       | 12     | dB    |                 |
| <b>Receiver</b>                |             |      |         |        |       |                 |
| Center Wavelength              | $\lambda_r$ | 840  | 850     | 860    | nm    |                 |
| Receiver Sensitivity           | Psens       | -    | -       | -11.1  | dBm   | 4               |
| Stressed Sensitivity in OMA    |             | -    | -       | -7.5   | dBm   | 4               |
| Los function                   | Los         | -30  | -       | -12    | dBm   |                 |
| Overload                       | Pin         | -    | -       | -1.0   | dBm   | 4               |
| Receiver Reflectance           |             | -    | -       | -12    | dB    |                 |

### Note:

1. Trade-offs are available between spectral width, center wavelength and minimum OMA, as shown in table 6.
2. The optical power is launched into MMF
3. Measured with a PRBS 231-1 test pattern @10.3125Gbps
4. Measured with a PRBS 231-1 test pattern @10.3125Gbps, BER≤10<sup>-12</sup>.

## 3. Mechanical Diagram



**Note:** External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.

## 4. Ordering Information

| OEM    | Part Number           | OEM     | Part Number         |
|--------|-----------------------|---------|---------------------|
| Adtran | SFP10G-ADAD-AOC-8M-C1 | Intel   | SFP10G-IN-AOC-30M-A |
| Adtran | SFP10G-ADAD-AOC-1M-C1 | Juniper | JNP-10G-AOC-1M-A    |
| Arista | AOC-S-S-10G-1M-A      | Juniper | JNP-10G-AOC-2M-A    |
| Arista | AOC-S-S-10G-2M-A      | Juniper | JNP-10G-AOC-3M-A    |
| Arista | AOC-S-S-10G-3M-A      | Juniper | JNP-10G-AOC-4M-A    |
| Arista | AOC-S-S-10G-4M-A      | Juniper | JNP-10G-AOC-5M-A    |
| Arista | AOC-S-S-10G-5M-A      | Juniper | JNP-10G-AOC-7M-A    |
| Arista | AOC-S-S-10G-7M-A      | Juniper | JNP-10G-AOC-10M-A   |
| Arista | AOC-S-S-10G-10M-A     | Juniper | JNP-10G-AOC-12M-A   |
| Arista | AOC-S-S-10G-12M-A     | Juniper | JNP-10G-AOC-15M-A   |
| Arista | AOC-S-S-10G-15M-A     | Juniper | JNP-10G-AOC-20M-A   |
| Arista | AOC-S-S-10G-20M-A     | Juniper | JNP-10G-AOC-25M-A   |

|                |                       |                  |                     |
|----------------|-----------------------|------------------|---------------------|
| Arista         | AOC-S-S-10G-25M-A     | Juniper          | JNP-10G-AOC-30M-A   |
| Arista         | AOC-S-S-10G-30M-A     | Lenovo           | 00YL634-A           |
| Avago/Broadcom | AFBR-2CAR01Z-A        | Lenovo           | 00YL6342-A          |
| Avago/Broadcom | AFBR-2CAR02Z-A        | Lenovo           | 00YL637-A           |
| Avago/Broadcom | AFBR-2CAR03Z-A        | Lenovo           | 00YL6374-A          |
| Avago/Broadcom | AFBR-2CAR04Z-A        | Lenovo           | 00YL640-A           |
| Avago/Broadcom | AFBR-2CAR05Z-A        | Lenovo           | 00YL643-A           |
| Avago/Broadcom | AFBR-2CAR07Z-A        | Lenovo           | 00YL64310-A         |
| Avago/Broadcom | AFBR-2CAR10Z-A        | Lenovo           | 00YL64312-A         |
| Avago/Broadcom | AFBR-2CAR12Z-A        | Lenovo           | 00YL646-A           |
| Avago/Broadcom | AFBR-2CAR15Z-A        | Lenovo           | 00YL649-A           |
| Avago/Broadcom | AFBR-2CAR20Z-A        | Lenovo           | 00YL64925-A         |
| Avago/Broadcom | AFBR-2CAR25Z-A        | Lenovo           | 00YL64930-A         |
| Avago/Broadcom | AFBR-2CAR30Z-A        | Mellanox         | -SFP10G-MX-AOC-1M-A |
| Brocade        | 10G-SFPP-AOC-0101-A   | Mellanox         | SFP10G-MX-AOC-2M-A  |
| Brocade        | 10G-SFPP-AOC-0201-A   | Mellanox         | SFP10G-MX-AOC-3M-A  |
| Brocade        | 10G-SFPP-AOC-0301-A   | Mellanox         | SFP10G-MX-AOC-4M-A  |
| Brocade        | 10G-SFPP-AOC-0401-A   | Mellanox         | SFP10G-MX-AOC-5M-A  |
| Brocade        | 10G-SFPP-AOC-0501-A   | Mellanox         | SFP10G-MX-AOC-7M-A  |
| Brocade        | 10G-SFPP-AOC-0701-A   | Mellanox         | SFP10G-MX-AOC-10M-A |
| Brocade        | 10G-SFPP-AOC-1001-A   | Mellanox         | SFP10G-MX-AOC-12M-A |
| Brocade        | 10G-SFPP-AOC-1201-A   | Mellanox         | SFP10G-MX-AOC-15M-A |
| Brocade        | 10G-SFPP-AOC-1501-A   | Mellanox         | SFP10G-MX-AOC-20M-A |
| Brocade        | 10G-SFPP-AOC-2001-A   | Mellanox         | SFP10G-MX-AOC-25M-A |
| Brocade        | 10G-SFPP-AOC-2501-A   | Mellanox         | SFP10G-MX-AOC-30M-A |
| Brocade        | 10G-SFPP-AOC-3001-A   | MSA              | AN-SFP10G-AOC-1M    |
| Brocade/Intel  | SFP10G-BRIN-AOC-7M-C1 | MSA              | AN-SFP10G-AOC-2M    |
| Brocade/Intel  | SFP10G-BRIN-AOC-5M-C1 | MSA              | AN-SFP10G-AOC-3M    |
| Cisco          | SFP-10G-AOC1M-A       | MSA              | AN-SFP10G-AOC-4M    |
| Cisco          | SFP-10G-AOC2M-A       | MSA              | AN-SFP10G-AOC-5M    |
| Cisco          | SFP-10G-AOC3M-A       | MSA              | AN-SFP10G-AOC-7M    |
| Cisco          | SFP-10G-AOC4M-A       | MSA              | AN-SFP10G-AOC-10M   |
| Cisco          | SFP-10G-AOC5M-A       | MSA              | AN-SFP10G-AOC-12M   |
| Cisco          | SFP-10G-AOC7M-A       | MSA              | AN-SFP10G-AOC-15M   |
| Cisco          | SFP-10G-AOC10M-A      | MSA              | AN-SFP10G-AOC-20M   |
| Cisco          | SFP-10G-AOC12M-A      | MSA              | AN-SFP10G-AOC-25M   |
| Cisco          | SFP-10G-AOC15M-A      | MSA              | AN-SFP10G-AOC-30M   |
| Cisco          | SFP-10G-AOC20M-A      | MSA Champion ONE | SFP-10G-AOC1M-C1    |
| Cisco          | SFP-10G-AOC25M-A      | MSA Champion ONE | SFP-10G-AOC2M-C1    |

|         |                    |                  |                        |
|---------|--------------------|------------------|------------------------|
| Cisco   | SFP-10G-AOC30M-A   | MSA Champion ONE | SFP-10G-AOC3M-C1       |
| Cisco   | SFP-10G-AOC33M-C1  | MSA Champion ONE | SFP-10G-AOC7M-C1       |
| Dell    | AOC-SFP-10G-1M-A   | Palo Alto        | PAN-SFP-PLUS-AOC-1M-A  |
| Dell    | AOC-SFP-10G-2M-A   | Palo Alto        | PAN-SFP-PLUS-AOC-2M-A  |
| Dell    | AOC-SFP-10G-3M-A   | Palo Alto        | PAN-SFP-PLUS-AOC-3M-A  |
| Dell    | AOC-SFP-10G-4M-A   | Palo Alto        | PAN-SFP-PLUS-AOC-4M-A  |
| Dell    | AOC-SFP-10G-5M-A   | Palo Alto        | PAN-SFP-PLUS-AOC-5M-A  |
| Dell    | AOC-SFP-10G-7M-A   | Palo Alto        | PAN-SFP-PLUS-AOC-7M-A  |
| Dell    | AOC-SFP-10G-10M-A  | Palo Alto        | PAN-SFP-PLUS-AOC-10M-A |
| Dell    | AOC-SFP-10G-12M-A  | Palo Alto        | PAN-SFP-PLUS-AOC-12M-A |
| Dell    | AOC-SFP-10G-15M-A  | Palo Alto        | PAN-SFP-PLUS-AOC-15M-A |
| Dell    | AOC-SFP-10G-20M-A  | Palo Alto        | PAN-SFP-PLUS-AOC-20M-A |
| Dell    | AOC-SFP-10G-25M-A  | Palo Alto        | PAN-SFP-PLUS-AOC-25M-A |
| Dell    | AOC-SFP-10G-30M-A  | Palo Alto        | PAN-SFP-PLUS-AOC-30M-A |
| Extreme | 10G-AOC-SFP1M -A   | Siemon           | S1S10F-V01.0M13-A      |
| Extreme | 10G-AOC-SFP2M-A    | Siemon           | S1S10F-V02.0M13-A      |
| Extreme | 10G-AOC-SFP3M-A    | Siemon           | S1S10F-V03.0M13-A      |
| Extreme | 10G-AOC-SFP4M-A    | Siemon           | S1S10F-V04.0M13-A      |
| Extreme | 10G-AOC-SFP5M-A    | Siemon           | S1S10F-V05.0M13-A      |
| Extreme | 10G-AOC-SFP7M-A    | Siemon           | S1S10F-V07.0M13-A      |
| Extreme | 10G-AOC-SFP10M-A   | Siemon           | S1S10F-V10.0M13-A      |
| Extreme | 10G-AOC-SFP12M-A   | Siemon           | S1S10F-V12.0M13-A      |
| Extreme | 10G-AOC-SFP15M-A   | Siemon           | S1S10F-V15.0M13-A      |
| Extreme | 10G-AOC-SFP20M-A   | Siemon           | S1S10F-V20.0M13-A      |
| Extreme | 10G-AOC-SFP25M-A   | Siemon           | S1S10F-V25.0M13-A      |
| Extreme | 10G-AOC-SFP30M-A   | Siemon           | S1S10F-V30.0M13-A      |
| Finisar | FCBG110SD1C01-A    | Supermicro       | CBL-SFP+AOC-1M-A       |
| Finisar | FCBG110SD1C02-A    | Supermicro       | CBL-SFP+AOC-2M-A       |
| Finisar | FCBG110SD1C03-A    | Supermicro       | CBL-SFP+AOC-3M-A       |
| Finisar | FCBG110SD1C04-A    | Supermicro       | CBL-SFP+AOC-4M-A       |
| Finisar | FCBG110SD1C05-A    | Supermicro       | CBL-SFP+AOC-5M-A       |
| Finisar | FCBG110SD1C07-A    | Supermicro       | CBL-SFP+AOC-7M-A       |
| Finisar | FCBG110SD1C10-A    | Supermicro       | CBL-SFP+AOC-10M-A      |
| Finisar | FCBG110SD1C12-A    | Supermicro       | CBL-SFP+AOC-12M-A      |
| Finisar | FCBG110SD1C15-A    | Supermicro       | CBL-SFP+AOC-15M-A      |
| Finisar | FCBG110SD1C20-A    | Supermicro       | CBL-SFP+AOC-20M-A      |
| Finisar | FCBG110SD1C25-A    | Supermicro       | CBL-SFP+AOC-25M-A      |
| Finisar | FCBG110SD1C30-A    | Supermicro       | CBL-SFP+AOC-30M-A      |
| Intel   | SFP10G-IN-AOC-1M-A | Ubiquiti         | SFP10G-U-AOC-1M-A      |

|       |                     |          |                    |
|-------|---------------------|----------|--------------------|
| Intel | SFP10G-IN-AOC-2M-A  | Ubiquiti | SFP10G-U-AOC-2M-A  |
| Intel | SFP10G-IN-AOC-3M-A  | Ubiquiti | SFP10G-U-AOC-3M-A  |
| Intel | SFP10G-IN-AOC-4M-A  | Ubiquiti | SFP10G-U-AOC-4M-A  |
| Intel | SFP10G-IN-AOC-5M-A  | Ubiquiti | SFP10G-U-AOC-5M-A  |
| Intel | SFP10G-IN-AOC-7M-A  | Ubiquiti | SFP10G-U-AOC-7M-A  |
| Intel | SFP10G-IN-AOC-10M-A | Ubiquiti | SFP10G-U-AOC-10M-A |
| Intel | SFP10G-IN-AOC-12M-A | Ubiquiti | SFP10G-U-AOC-12M-A |
| Intel | SFP10G-IN-AOC-15M-A | Ubiquiti | SFP10G-U-AOC-15M-A |
| Intel | SFP10G-IN-AOC-20M-A | Ubiquiti | SFP10G-U-AOC-20M-A |
| Intel | SFP10G-IN-AOC-25M-A | Ubiquiti | SFP10G-U-AOC-25M-A |
|       |                     | Ubiquiti | SFP10G-U-AOC-30M-A |

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