

Alpha Bridge ASFPP-F-50-AK Datasheet



Features

- Full-duplex active optical cable
- Up to 10.3125Gb/s per channel
- Hot-pluggable SFP+ MSA-compliant connectors
- 1W maximum power dissipation per end
- Built-in digital diagnostic functions
- Commercial operating case temperature range: 0 to 70°C
- RoHS-6 compliant (lead free)

Application

- High performance computing interconnect
- 10G Ethernet interconnect

Absolute Maximum Ratings

| Parameter | Symbol | Min. | Max. | Units | Note |
|----------------------------|----------|------|------|-------|------|
| Supply Voltage | V_{cc} | -0.3 | 3.6 | V | |
| Storage Temperature | T_S | -40 | 85 | °C | |
| Case Operating Temperature | T_c | 0 | 70 | °C | |
| Relative Humidity | RH | 5 | 85 | % | 1 |

Note:

1. Non-condensing.

Transmitter Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Units | Note |
|-------------------------------|--------------|------|------|----------|----------|------|
| Supply Voltage | V_{cc} | 3.13 | 3.3 | 3.47 | V | |
| Supply Current | I_{cc} | | 230 | | mA | |
| Input differential impedance | Z_{in} | 90 | 100 | 110 | Ω | 1 |
| Differential Data Input Swing | $V_{in, pp}$ | 40 | | 100 | mV | |
| Transmit Disable Voltage | V_D | 2.0 | | V_{cc} | V | |
| Transmit Enable Voltage | V_{EN} | 0 | | 0.8 | V | |

Note:

1. Connected directly to TX data input pins. AC coupling from pins into laser driver IC.

Receiver Characteristics

| Parameter | Symbol | Min | Typ. | Max | Units | Notes |
|--------------------------------|------------------|-----|------|----------|-------|-------|
| Differential Data Output Swing | $V_{out, pp}$ | 300 | | 850 | mV | |
| LOS Fault | $V_{LOS\ fault}$ | 2 | | V_{cc} | V | 2 |
| LOS Normal | $V_{LOS\ norm}$ | 0 | | 0.8 | V | 2 |

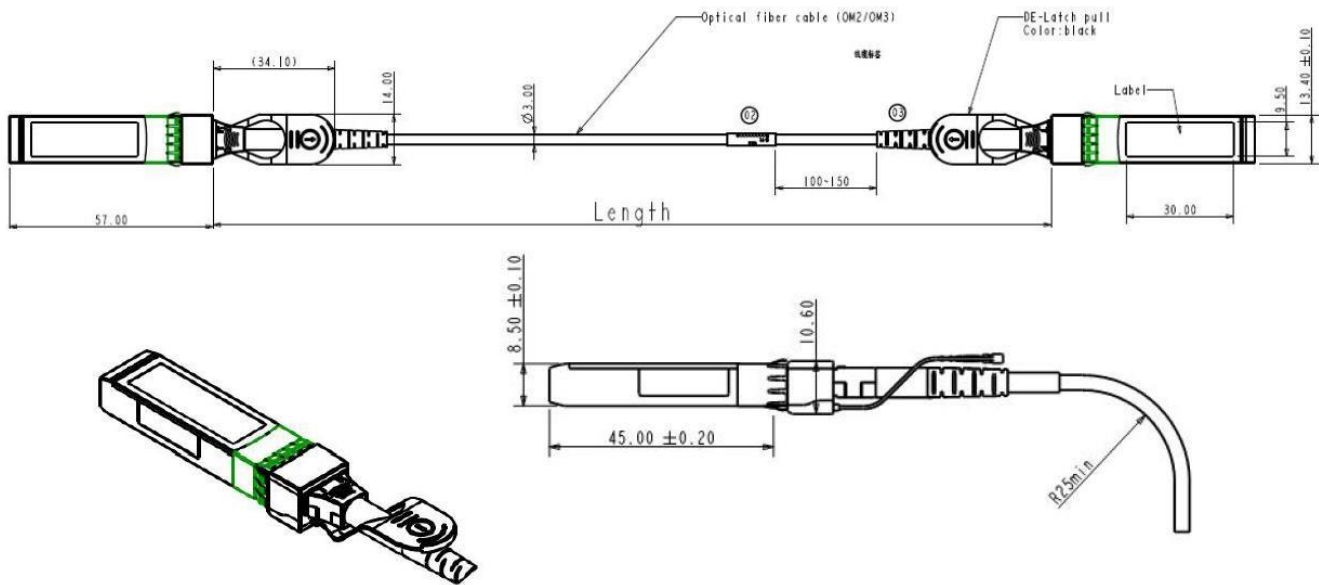
Note:

1. LOS is an open collector output. Should be pulled up with 4.7k to 10k on the host board.

SFP+ AOC Specifications

| Parameter | Description |
|-----------------------------------|---|
| Module Form Factor | SFP+ (As defined by SFP+ MSA, "SFF-8431 Rev 4.1", "SFF-8432 Rev 5.1") |
| Maximum Data Rate | 10.3125Gb/s |
| Cable Lengths | Up to 300m using OM3 MMF and 400m using OM4 MMF |
| Protocols Supported | 10G Ethernet |
| Electrical Interface and Pin-out | 20-pin edge connector |
| Cable Type | Multimode round fiber cable, plenum-rated |
| Maximum Power Consumption per End | 1W |
| Management Interface | Serial, I2C-based (As defined by "SFF-8472 Rev 11.0".) |

Dimensions



Ordering Information

| Part Number | Model Number | Length (M) | Voltage | Temperature |
|----------------------|----------------------|------------|---------|-------------|
| ASFPP-F-50-AK | Active Optical Cable | 50 | 3.3V | 0°C to 70°C |

Note: All information contained in this document is subject to change without notice.