

# Alpha Bridge ASFPP-F-20-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	$\Omega$	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

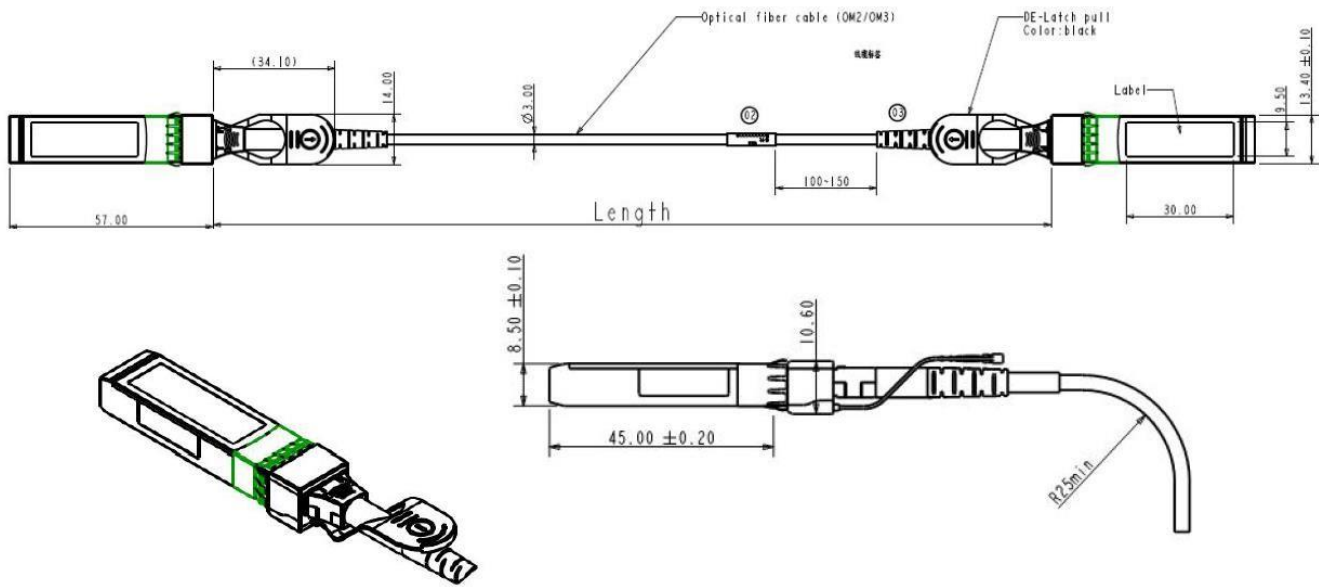
Note:

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
<b>ASFPP-F-20-AK</b>	Active Optical Cable	20	3.3V	0°C to 70°C

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