



### 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)

### Applications

- High performance computing interconnect
- 10G Ethernet interconnect

### Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Units	Notes
Supply Voltage	Vcc	-0.3	3.6	V	
Storage Temperature	Ts	-40	85	°C	
Case Operating Temperature	Tc	0	70	°C	
Relative Humidity	RH	5	85	%	1

Notes:

1. Non-condensing.

### Transmitter Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
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	

Notes:

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

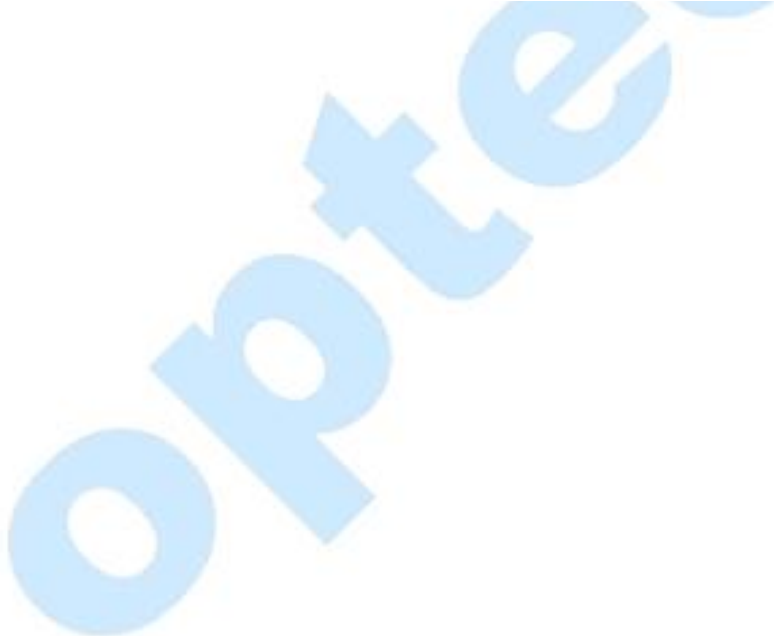
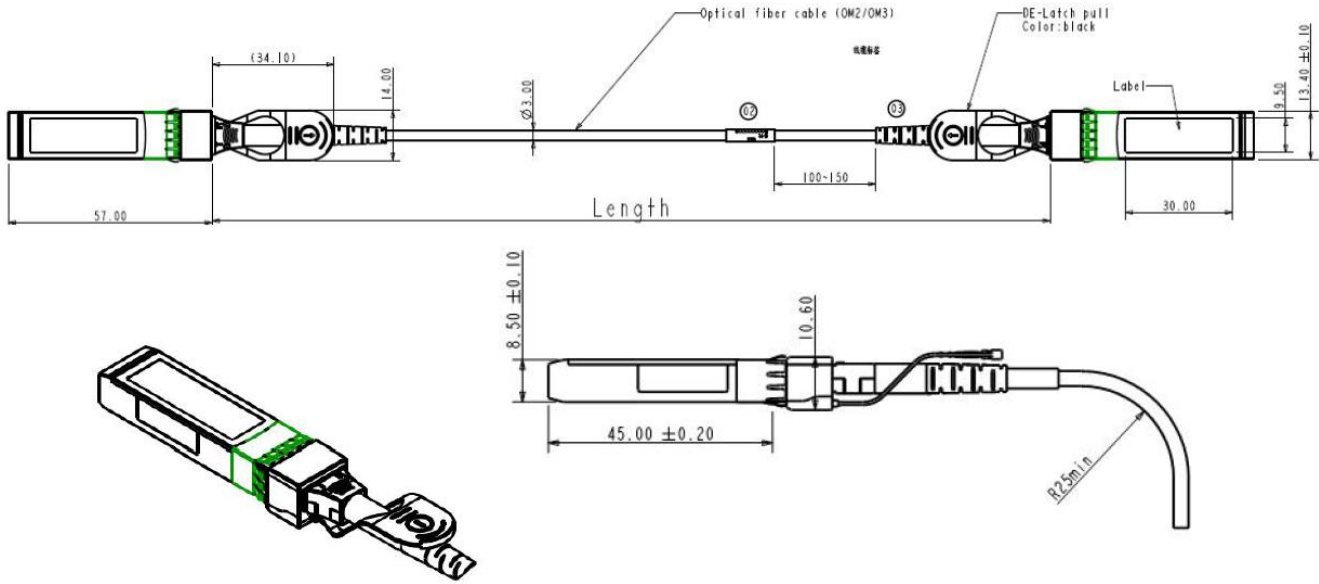
Notes:

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

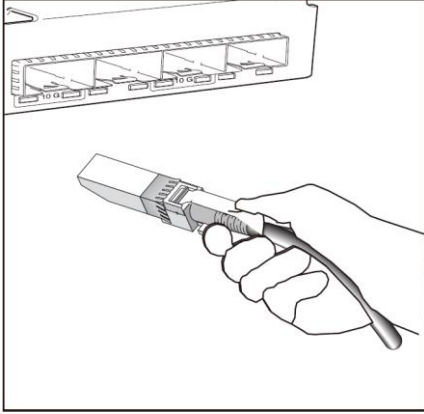
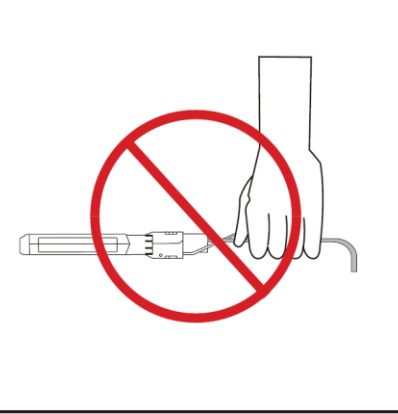
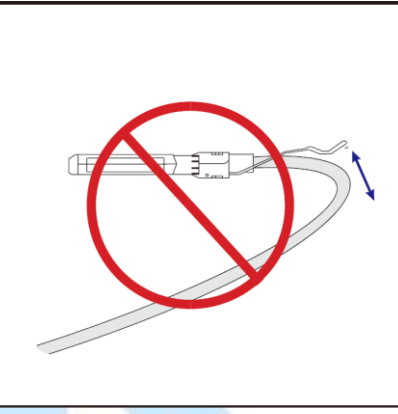


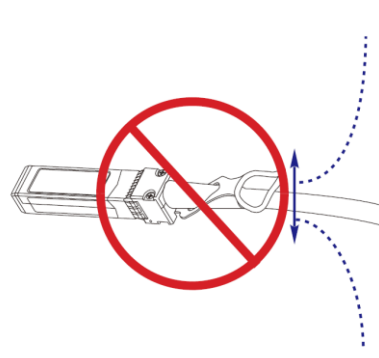
### SFP+ AOC Specifications

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, I <sup>2</sup> C-based (As defined by "SFF-8472 Rev 11.0".)

**Dimensions**



**Important Notice**

		
<p>Holding the SFP+ connector by its sides, insert the connector into the port on the switch</p>	<p>Do not handle by cable</p>	<p>DO NOT Over-bend the cable behind the connector</p>
		
<p>DO NOT twist the cable</p>	<p>DO NOT kink the cable</p>	<p>DO NOT bend up and down the cable</p>

**Ordering Information**

<b>OP</b>	<b>S F P P</b>	-	<b>F</b>	-	<b>01</b>	-	<b>A</b>	<b>K</b>	<b>F</b>
	↑		↑		↑		↑	↑	↑
	<b>Product Code:</b> MSAS= Mini-SAS; MSHD=Mini-SAS HD 6~12G; SFPP=SFP+ 8~10G; MSFP=Mini SFP; XFP=XFP 10G; CX4=CX4 10G; QDDR=QDDR 20G; SF28=SFP28 25G; QSFP=QSFP 40G; QFDR=FDR 56G; QS28=QSFP28 100G; CXP=CXP 120G	<b>Transceiver Type:</b> T=Electrical; F=Optical; I=Internal Electrical	<b>Cable Length:</b> X5=0.5M; 01=1M; 03=3M; 05=5M; 07=7M; 10=10M; 15=15M; 20=20M; A0=100M xxxx=Customized Length (Unit: CM) A5=1.5M (For 25G &100G only); B5=2.5M (For 25G &100G only); C5=3.5M (For 25G &100G only)	<b>P=Passive;</b> <b>A=Active;</b>	<b>DAC AWG:</b> A=24; B=26; C=28; E=30; F=32 X=No Media Type (For Loopback)	<b>For Optech Internal ref.</b>  <b>AOC OD:</b> K=3.0 mm  <b>For Loopback Power Consumption:</b> X=0W; 1=1W; A=1.5W; 2=2W; B=2.5W; 3=3W; C=3.5W 4=4W; 5=5W			

Part Number	Model Number	Length (M)	Voltage	Temperature
OPSFPP-F-03-AKF	Active Optical Cable	3	3.3V	0°C ~ 70°C
OPSFPP-F-05-AKF	Active Optical Cable	5	3.3V	0°C ~ 70°C
OPSFPP-F-07-AKF	Active Optical Cable	7	3.3V	0°C ~ 70°C
OPSFPP-F-10-AKF	Active Optical Cable	10	3.3V	0°C ~ 70°C
OPSFPP-F-20-AKF	Active Optical Cable	20	3.3V	0°C ~ 70°C
OPSFPP-F-30-AKF	Active Optical Cable	30	3.3V	0°C ~ 70°C
OPSFPP-F-50-AKF	Active Optical Cable	50	3.3V	0°C ~ 70°C
OPSFPP-F-A0-AKF	Active Optical Cable	100	3.3V	0°C ~ 70°C

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