



## 10G SFP+ Active Optical Cables

SFP+ to SFP+ 10GB Active Optical Cable is a cutting edge active optical cable particularly for use between SFP+ ports. Optronics SFP+ to SFP+ 10GB Active Optical Cable is lighter and more adaptable than copper SFP+ coordinate join cables (DACs). It features hot-pluggable SFP+ link finishes and supports 10.3125 Gb/s bit rate with RoHS-6 consistent. It has low power scattering and has a rigid force tab for enhanced high-density installments. It is fully tested for compatibility with intended equipment.

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## Features

- Electrical interface compliant to SFF-8431
- 850nm VCSEL laser and PIN photo-detector
- Maximum link length of 150m on OM2 MMF and 300m on OM3 MMF
- Hot Pluggable
- Built-in digital diagnostic functions
- Operating case temperature 0°C to 70°C
- RoHS compliant

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## Applications

- 10G Ethernet
- Data Centres
- InfiniBand transmission

## Specifications

### Absolute Maximum Ratings

ELEMENT	VALUE	SYMBOL	MIN	MAX
Storage Temperature	°C	T <sub>S</sub>	-20	85
Relative Humidity	%	R <sub>H</sub>	0	85
Case Operating Temperature	°C	T <sub>Case</sub>	0	70
Supply Voltage	V	V <sub>CC</sub>	-0.5	3.6

### Recommended Operating Conditions

ELEMENT	VALUE	SYMBOL	MIN	TYPICAL	MAX
Case Operating Temperature	°C	T <sub>Case</sub>	0		70
Supply Voltage	V	V <sub>CC</sub>	3.13	3.3	3.47
Supply Current	mA	I <sub>CC</sub>	0		150
Data Rate	Gbit/s	DR		10.3125	

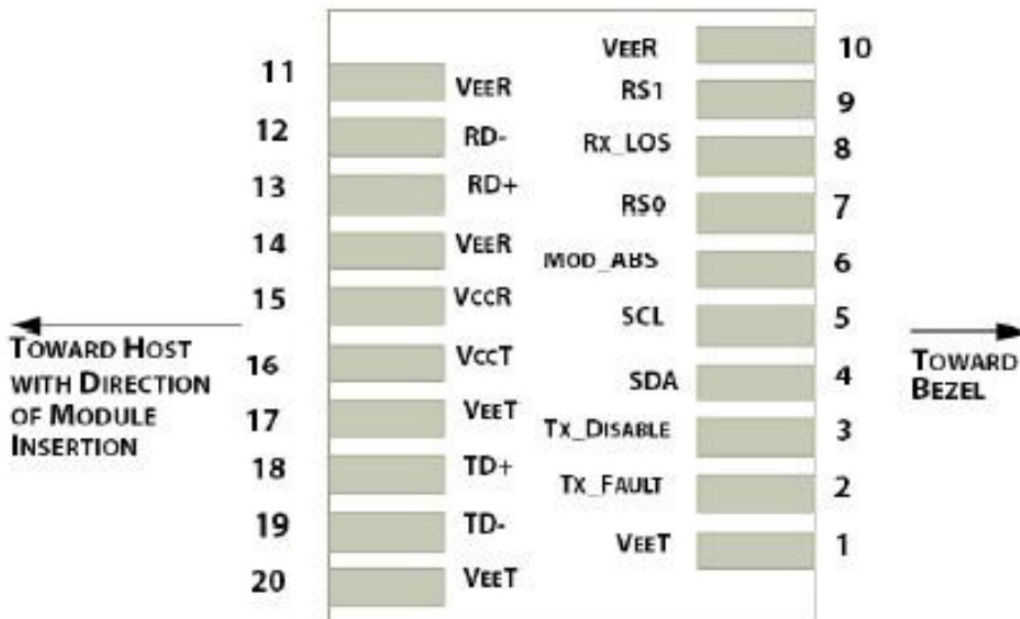
### Transmitter Specification

ELEMENT	VALUE	SYMBOL	MIN	TYPICAL	MAX
Input differential impedance	Ohm	Z <sub>in</sub>	90	100	110
Differential Data Input Swing	mVp-p	V <sub>in</sub>	200		1600
Transmit Enable Voltage	V	V <sub>EN</sub>			0.8
Transmit Disable Voltage	V	V <sub>D</sub>	2.0		
Average launch power	dBm	P <sub>AVG</sub>	-6.5	-1	
Extinction Ratio	dB	ER	3.0		

## Receiver Specification

ELEMENT	VALUE	SYMBOL	MIN	TYPICAL	MAX
Differential Data Output Swing	mVp-p	V <sub>out</sub>	370		1600
Bit Error Rate		BER			10 <sup>-12</sup>
Receiver Overload	dBm	P <sub>inmax</sub>	2.5		
Output Differential Impedance	Ohm	Z <sub>out</sub>	90	100	110
LOS Fault	V	V <sub>OH</sub>	2.4		
LOS Normal	V	V <sub>OL</sub>			0.4

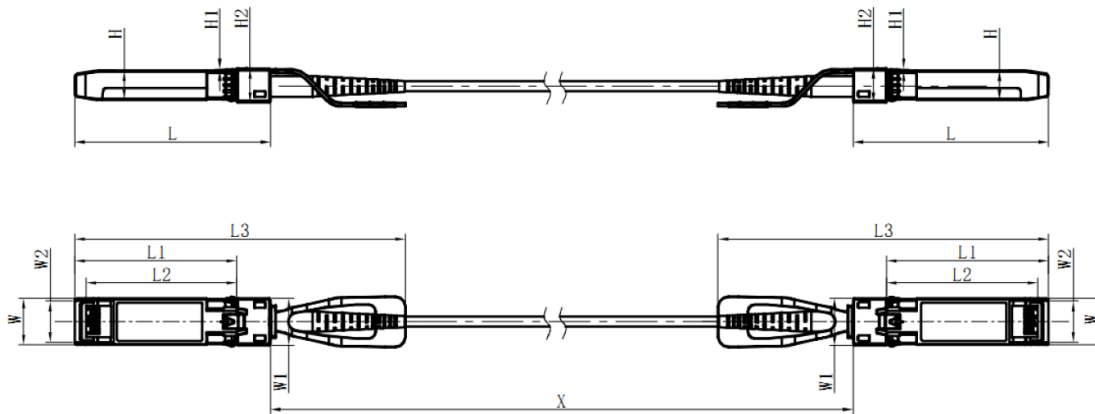
## Pin Descriptions



## Pin Definitions

PIN	SYMBOL	NAME/DESCRIPTION
1	VeeT	Transmitter Signal Ground
2	TX_FAULT	Transmitter Fault (LVTTTL-O) – Not used. Grounded inside the module
3	TX_DISABLE	Transmitter Disable (LVTTTL-I) – High or open disables the transmitter
4	SDA	Two Wire Serial Interface Data Line (LVCMOS – I/O) (same as MOD-DEF2 in INF-8074)
5	SCL	Two Wire Serial Interface Clock Line (LVCMOS – I/O) (same as MOD-DEF1 in INF-8074)
6	MOD_ABS	Module Absent (Output), connected to VeeT or VeeR in the module
7	RS0	Rate Select 0 - Not used, Presents high input impedance.
8	RX_LOS	Receiver Loss of Signal (LVTTTL-O)
9	RS1	Rate Select 1 - Not used, Presents high input impedance.
10	VeeR	Receiver Signal Ground
11	VeeR	Receiver Signal Ground
12	RD-	Receiver Data Out Inverted (CML-O)
13	RD+	Receiver Data Out (CML-O)
14	VeeR	Receiver Signal Ground
15	VccR	Receiver Power + 3.3 V
16	VccT	Transmitter Power + 3.3 V
17	VeeT	Transmitter Signal Ground
18	TD+	Transmitter Data In (CML-I)
19	TD-	Transmitter Data In Inverted (CML-I)
20	VeeT	Transmitter Signal Ground

## Mechanical Specifications



Unit: mm

	L	L1	L2	L3	W	W1	W2	H	H1	H2
MAX	57.75	48.0	44.65	102.5	13.75	14.0	12.25	8.65	0.55	10.4
Typical	57.55	47.8	44.45	101.5	13.65	13.9	12.15	8.55	0.5	10.2
MIN	57.35	47.6	44.25	100.5	13.55	13.8	12.05	8.45	0.45	10.0

## Ordering Information

### DESCRIPTION

### PART NUMBER

Optronics SFP+ to SFP+ 10GB Active Optical Cable

OSFP-AOC-1010-XXX

\*where XXX is cable length in metres