SPH-SFP28-AOCX

25G SFP28 Active Optical Cable

Description

25G SFP28 Active Optical Cables are direct-attach fiber assemblies with SFP28 connectors. They are suitable for very short distances and offer a cost-effective way to connect within racks and across adjacent racks. SOPTO 25G SFP28 Active Optical Cables' length is up to 100 meters on OM4 MMF.

Features

- Electrical interface compliant to SFF-8431
- 850nm VCSEL laser and PIN photo-detector
- Maximum link length of 70m on OM3 MMF and 100m on OM4 MMF
- Digital diagnostics functions are available via the I2C interface
- RoHS compliant
- Hot Pluggable

Applications

- 25GBASE-SR Ethernet

- InfiniBand QDR, SDR, DDR
- Servers, switches, storage and host card adapters

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature	TST	-20	85	℃
Relative Humidity	RH	0	85	%
Case Operating Temperature	TOPC	0	70	℃
Supply Voltage	VCC	-0.3	3.6	V

Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case temperature	T_A	0		+70	℃
Supply Voltage	VCC	3.13	3.3	3.47	V
Supply current	Icc			300	mA
Channel Data Rate	Dr		25.78125		Gbps

Optical Characteristics

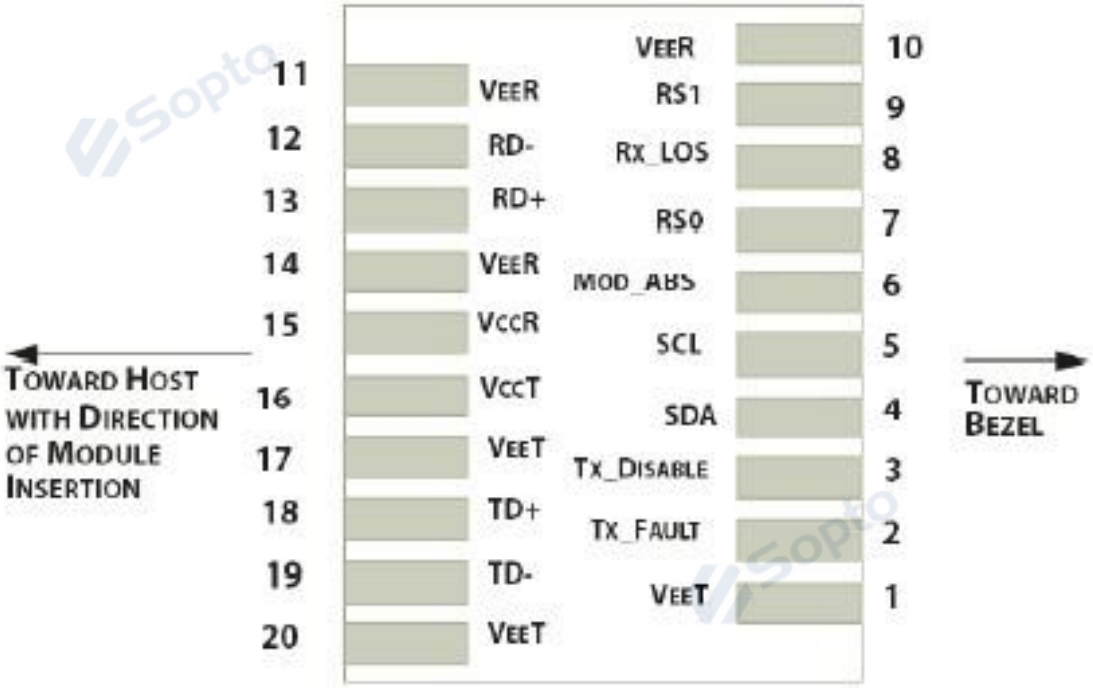
The following optical characteristics are defined over the Recommended Operating Environment unless otherwise specified.

Measured condition：Channel Data Rate 25.78125Gbps, VRCCR=3.3V, PRBS31, Case Operating Temperature 0~70℃

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Transmitter						
Input differential impedance	Zin	90	100	110	Ω	-
Differential Data Input Swing	Vin PP	300		1100	mV	-
Transmit Enable Voltage	V_{EN}			0.8	V	-
Transmit Disable Voltage	V_D	2.0			V	-
Average launch power	P_{AVG}	-7.5	-1	+2.5	dBm	-
Extinction Ratio	ER	2.0			dB	-
Centre Wavelength	λc	840	850	860	nm	-
Receiver						
Center Wavelength	λc	840	850	860	nm	-
Differential Data Output Swing	Vout PP	500		800	mV	-
Bit Error Rate	BER			E-12		-

Receiver Overload	PinMAX	2.5			dBm	-
Output Differential Impedance	Zout	90	100	110	ohm	-
LOS Fault	V_{OH}	2.4			V	-
LOS Normal	V_{OL}			0.4	V	-

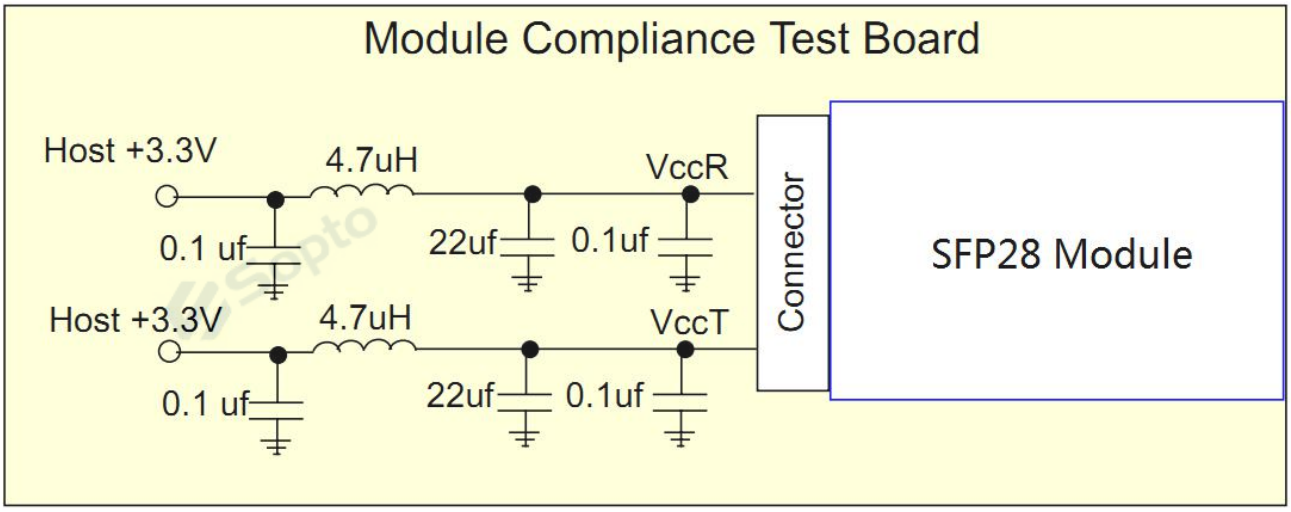
Pin Descriptions



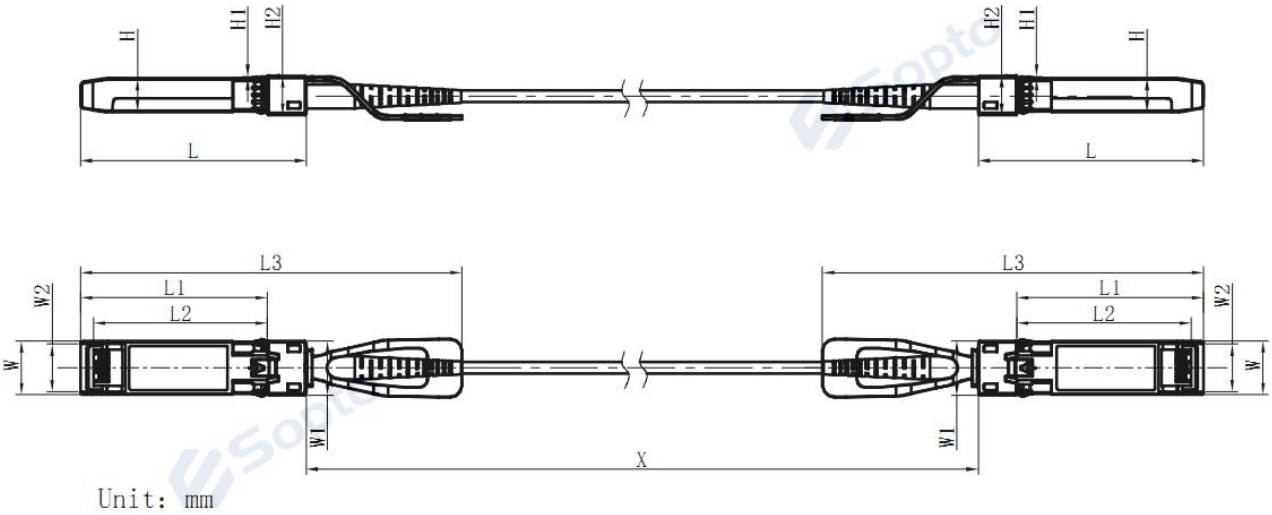
PIN	Name	Function/Description
1	VeeT	Transmitter Ground
2	Tx_Fault	Transmitter Fault - High indicates a fault condition
3	Tx_Disable	Transmitter Disable – High or open disables the transmitter
4	SDA	Two wire serial interface Data Line
5	SCL	Two wire serial interface Clock Line
6	MOD_ABS	Module Absent (Output), connected to VeeT or VeeR in the module
7	RS0	Rx Rate Select,not used
8	RX_LOS	Loss of Signal indication. Logic 0 indicates normal operation
9	RS1	Tx Rate Select,not used
10	VeeR	Receiver Ground
11	VeeR	Receiver Ground
12	RD-	Receiver Inverted DATA out
13	RD+	Receiver Non-inverted DATA out
14	VeeR	Receiver Ground
15	VccR	Receiver Power Supply
16	VccT	Transmitter Power Supply
17	VeeT	Transmitter Ground
18	TD+	Transmitter Non-Inverted DATA in

19	TD-	Transmitter Inverted DATA in
20	VeeT	Transmitter Ground

Module Power Supply Tolerance Filtering



Mechanical Design Diagram



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

Cable Length（Unit: m）	Tolerant（Unit: cm）
＜1.0	+5/-0
1.0~4.5	+15/-0
5.0~14.5	+30/-0
≥15.0	+2%/-0

Ordering information

PN	Cable Information
SPH-SFP28-AOCX	OM3 MMF without UL Certification(X≤70 meter) OM4 MMF without UL Certification(70＜X≤100meter)
X: 1~100,1~100 Length in meters; X example： 1: 1-meter cable 3: 3-meter cable 5: 5-meter cable 10: 10-meter cable 15: 15-meter cable 20: 20-meter cable 30: 30-meter cable 50: 50-meter cable 100: 100-meter cable	

Note:

1、Default jacket material is PVC.

2、Default operating case temperature is 0 ~ 70℃. If you need -40 ~85℃ products, add “-T” after Part Number .

3、If you need more customized services, please contact us.

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