

## SFP28-25G-AOC-XFM

25G SFP28 to SFP28 Active Optical Cables

1M, 2M, 3M, 5M, 7M, 10M, 15M, 20M, 25M, 30M Reach



### Product 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	°C
Relative Humidity	Rh	0	85	%
Case Operating Temperature	Topc	0	70	°C
Supply Voltage	VCC	-0.3	3.6	V

## Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case temperature	T <sub>A</sub>	0		70	°C
Supply Voltage	V <sub>cc</sub>	3.13	3.3	3.47	V
Supply Current	I <sub>cc</sub>			300	mA
Channel Data Rate	Dr		25.78125		Gbps

## Transmitter

Measured condition: Channel Data Rate 25.78125Gbps, VR<sub>CC</sub>R=3.3V, PRBS31, Case Operating Temperature 0~70°C

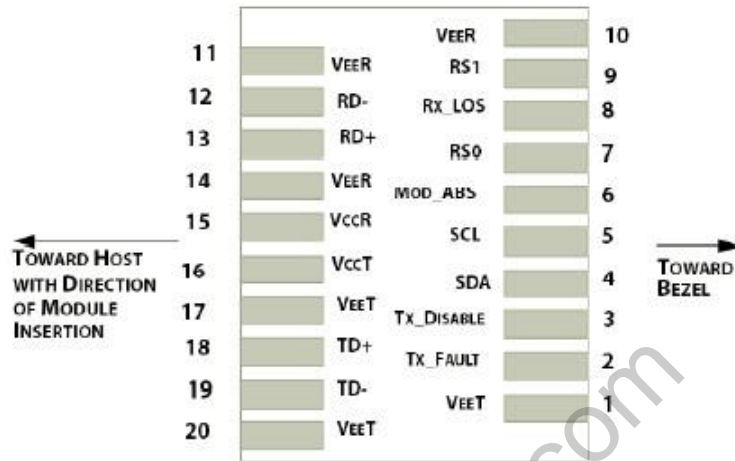
Parameter	Symbol	Min	Typical	Max	Unit
Input differential impedance	Z <sub>in</sub>	90	100	110	Ω
Differential Data Input Swing	V <sub>in</sub> PP	300		1100	mV
Transmit Enable Voltage	V <sub>EN</sub>			0.8	V
Transmit Disable Voltage	V <sub>D</sub>	2.0			V
Average launch power	PAVG	-7.5	-1	+2.5	dBm
Extinction Ratio	ER	2.0			dB
Centre Wavelength	λ <sub>c</sub>	840	850	860	nm

## Receiver

Measured condition: Channel Data Rate 25.78125Gbps, VR<sub>CC</sub>R=3.3V, PRBS31, Case Operating Temperature 0~70°C

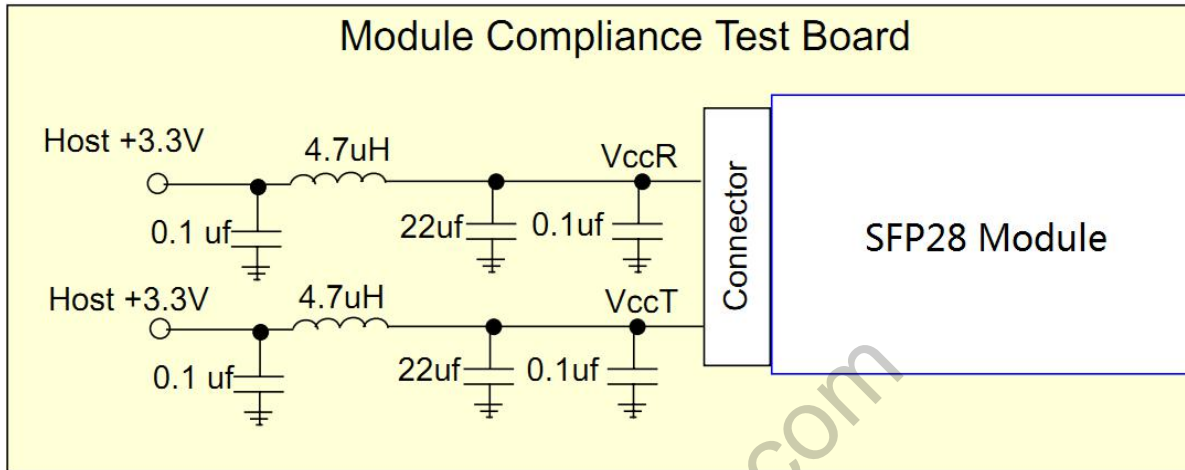
Parameter	Symbol	Min	Typical	Max	Unit
Center Wavelength	λ <sub>c</sub>	840	850	860	nm
Differential Data Output Swing	V <sub>out</sub> PP	500		800	mV
Bit Error Rate	BER			E-12	
Receiver Overload	PinMAX	2.5			dBm
Output Differential Impedance	Z <sub>out</sub>	90	100	110	ohm
LOS Fault	V <sub>OH</sub>	2.4			V
LOS Normal	V <sub>OL</sub>			0.4	V

## Pin Descriptions

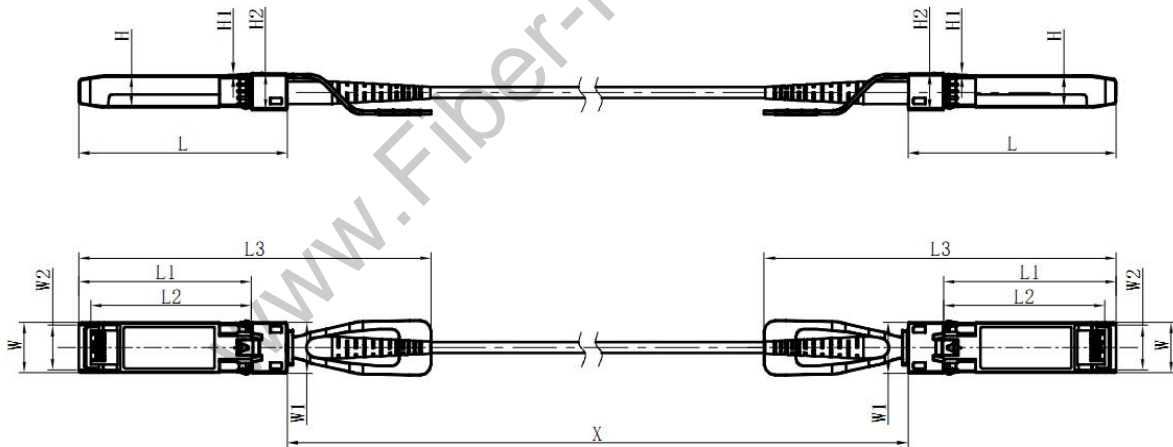


PIN	Name	Function/Description
1	VeeT	Transmitter Ground
2	Tx_Fault	Transmitter Fault - High indicates a fault condition
3	Tx_Disable	Transmitter Disable - High or open disables the transmitter
4	SDA	Two wire serial interface Data Line
5	SCL	Two wire serial interface Clock Line
6	MOD_ABS	Module Absent (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 Dimensions



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

Part Number	Product Description
SFP28-25G-AOC-1FM	25G SFP28 to SFP28 Active Optical Cable, 1m (3ft), 70m on OM3, 100m on OM4, 0° C ~ +70° C
SFP28-25G-AOC-2FM	25G SFP28 to SFP28 Active Optical Cable, 2m (7ft), 70m on OM3, 100m on OM4, 0° C ~ +70° C
SFP28-25G-AOC-3FM	25G SFP28 to SFP28 Active Optical Cable, 3m (10ft), 70m on OM3, 100m on OM4, 0° C ~ +70° C
SFP28-25G-AOC-5FM	25G SFP28 to SFP28 Active Optical Cable, 5m (16ft), 70m on OM3, 100m on OM4, 0° C ~ +70° C
SFP28-25G-AOC-7FM	25G SFP28 to SFP28 Active Optical Cable, 7m (23ft), 70m on OM3, 100m on OM4, 0° C ~ +70° C
SFP28-25G-AOC-10FM	25G SFP28 to SFP28 Active Optical Cable, 10m (33ft), 70m on OM3, 100m on OM4, 0° C ~ +70° C
SFP28-25G-AOC-15FM	25G SFP28 to SFP28 Active Optical Cable, 15m (49ft), 70m on OM3, 100m on OM4, 0° C ~ +70° C
SFP28-25G-AOC-20FM	25G SFP28 to SFP28 Active Optical Cable, 20m (66ft), 70m on OM3, 100m on OM4, 0° C ~ +70° C
SFP28-25G-AOC-25FM	25G SFP28 to SFP28 Active Optical Cable, 25m (82ft), 70m on OM3, 100m on OM4, 0° C ~ +70° C
SFP28-25G-AOC-30FM	25G SFP28 to SFP28 Active Optical Cable, 30m (98ft), 70m on OM3, 100m on OM4, 0° C ~ +70° C