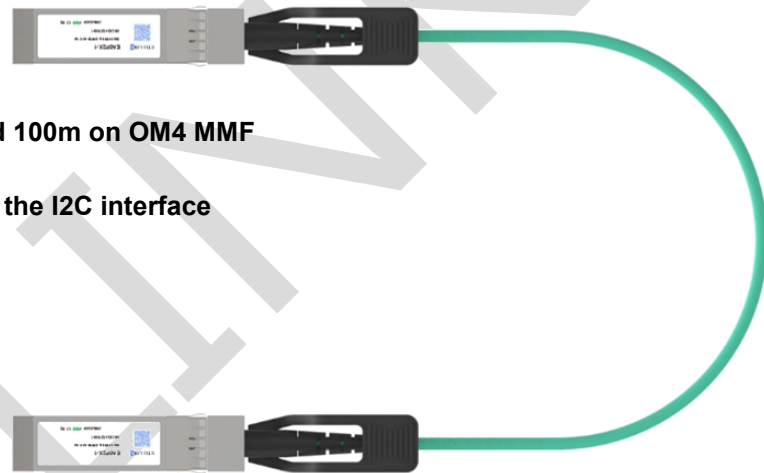


EASP2X-xx

25G SFP28 Active Optical Cable

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

DESCRIPTIONS

The ETU-LINK SFP28 active optic cables are a high performance, low power consumption long reach interconnect solution supporting 25G Ethernet or InfiniBand QDR/DDR/SDR, 12.5G/10G/8G/4G/2G fiber channel, PCIe and SAS. It is compliant with the SFP+ MSA and IEEE P802.3ba. SFP28 AOC is an assembly of 1 full-duplex lanes, where are capable of transmitting data at rates up to 25.78125Gb/s, ETU-LINK SFP28 AOC is one kind of parallel transceiver which provide sin creased port density and total system cost savings.

Ordering Information

Part No.	Description
EASP2X-xx-OM3	25G SFP28 Active Optical Cable OM3 0~70M
EASP2X-xx-OM4	25G SFP28 Active Optical Cable OM4 0~100M

Notes:

- where "x" denotes cable length in meters. Examples are as follows:
- x = 1 for 1m, xx=10 for 10m

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 _A	0		+70	°C
Supply Voltage	VCC	3.13	3.3	3.47	V
Supply current	I _{cc}			300	mA
Channel Data Rate	Dr		25.78125		Gbps

Electrical Characteristics

High-Speed Signal: Compliant to CEI-11G-SR

Low-Speed Signal: Compliant to SFF-8419

Parameter		Symbol	Min.	Typical	Max.	Unit	Notes
Transmitter (Module Input)							
Differential Input Resistance		R _{Rdin}	80	100	120	Ω	
Input Differential Voltage		R _{Vdiff}	110	-	1050	mVpp	
Tx_Disable	Normal Operation	V _{IL}	-0.3	-	0.8	V	
	Laser Disable	V _{IH}	2.0	-	V _{CC} +0.3	V	
Receiver (Module Output)							
Differential Resistance		T _{Rd}	80	100	120	Ohm	

Output Differential Voltage		T_V _{diff}	360	-	770	mVpp	
Differential Termination Resistance Mismatch		T_R _{dm}	-	-	5	%	
Rx Ios	Normal Operation	V _{OL}	-0.3	-	0.4	V	
	Loss Signal	V _{OH}	2		VCCHOST	V	

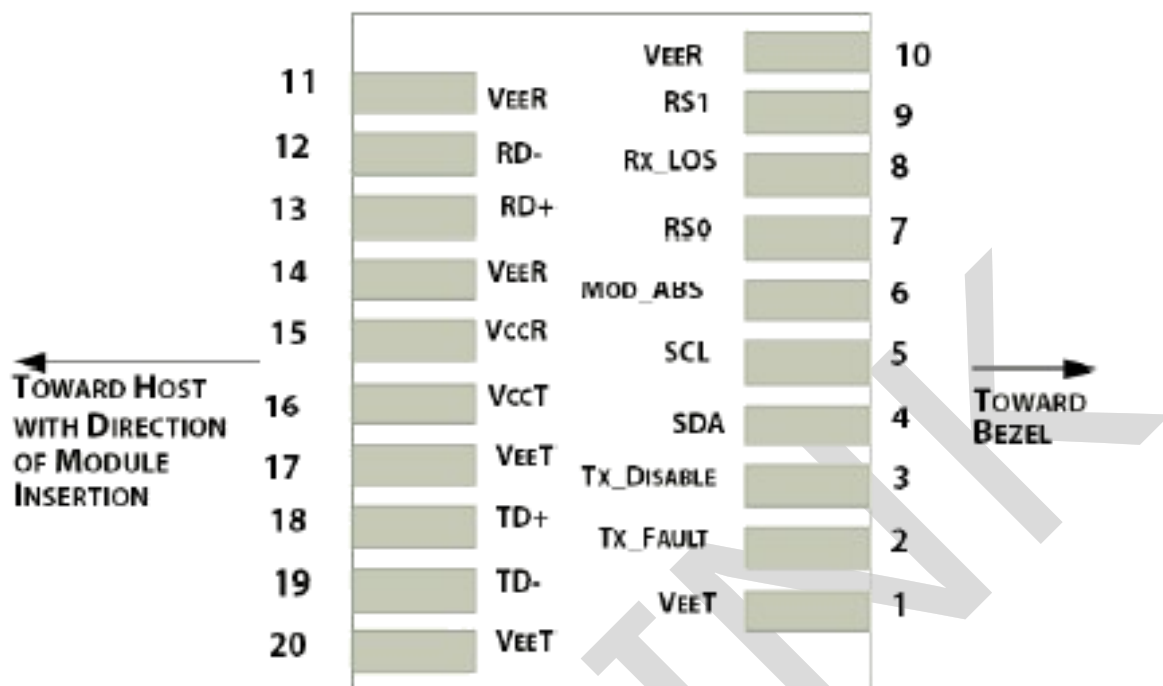
Optical and Characteristics

Parameter	Symbol	Min	Typical	Max	Unit
Transmitter					
Average launch power	P _{AVG}	-7.5	-	+2.5	dBm
Extinction Ratio	ER	2.0			dB
Centre Wavelength	λ _c	840	850	860	nm
Receiver					
Center Wavelength	λ _c	840	850	860	nm
Bit Error Rate	BER	BER<5.0*10 ⁻⁵			
Receiver Overload	PinMAX	2.5			dBm
Output Differential Impedance	Z _{out}	90	100	110	ohm

Digital Diagnostics

Parameter	Range	Accuracy	Unit	Calibration
Temperature	0 to +70	±3°C	°C	Internal
Voltage	3.0 to 3.6	±3%	V	Internal
Bias Current	0 to 15	±10%	mA	Internal
TX Power	-7.5 to- 2.5	±3dB	dBm	Internal
RX Power	-10.3 to 2.5	±3dB	dBm	Internal

Pin Diagram

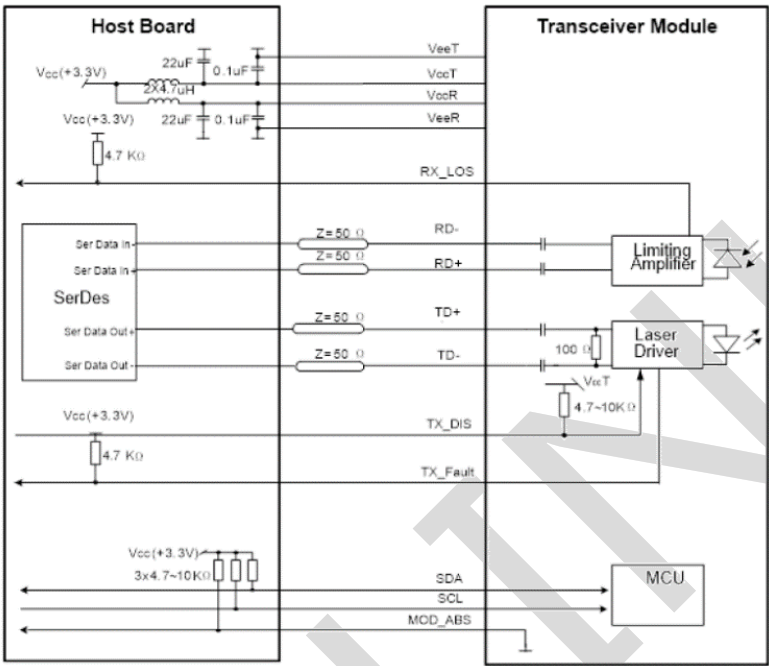


Pin Definitions

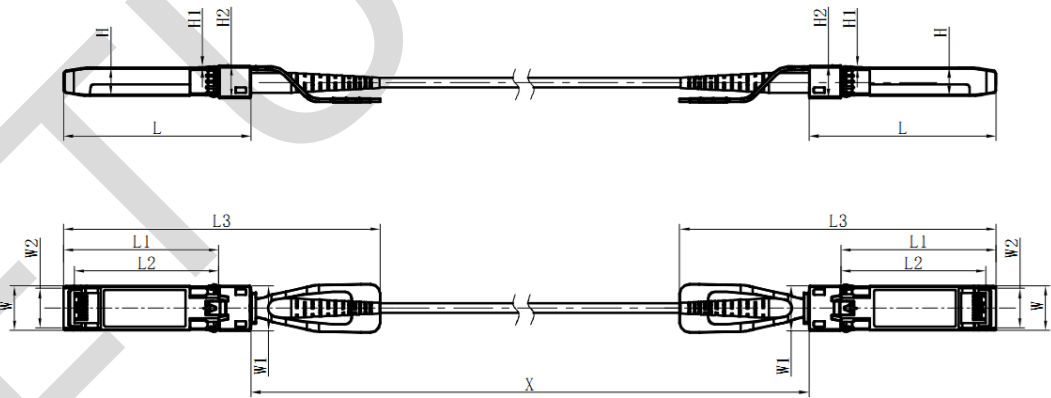
PIN	Name	Function/Description
1	VeeT	Transmitter Ground
2	Tx_Fault	Transmitter Fault - High indicates a fault condition
3	Tx_Disable	Transmitter Disable – High or open disables the transmitter
4	SDA	Two wire serial interface Data Line
5	SCL	Two wire serial interface Clock Line
6	MOD_ABS	Module Absent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



Mechanical 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

Revision History

Version No.	Date	Description
1.0	July 8, 2019	Preliminary datasheet
1.1	Aug 26, 2024	Format change

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