

TITLE QSFP28 100G (25Gx4) AOC (Active Optical cable)	DOC No. RFD-20231225011-001	
	REVISION : 01	AUTHORIZED BY : Andy Yang
	DATE : 2023.12.26	CLASSIFICATION : CONFIDENTIAL

1. PRODUCT FEATURES

- ✓ Compliant to QSFP28 Electrical MSA SFF-8636 Specification
- ✓ Wide Operating Temperature(0°C~70°C)
- ✓ 4x25Gbps 850nm VCSEL-based Transmitter
- ✓ RoHS compliant

2. APPLICABLE DOCUMENTS AND SPECIFICATIONS

- ✓ 100GBASE-SR4 at 25.78125Gbps per lane
- ✓ InfiniBand QDR, EDR
- ✓ Other optical links

3. PRODUCT DESCRIPTION

3.1 PRODUCT NAME AND SERIES NUMBER(S)

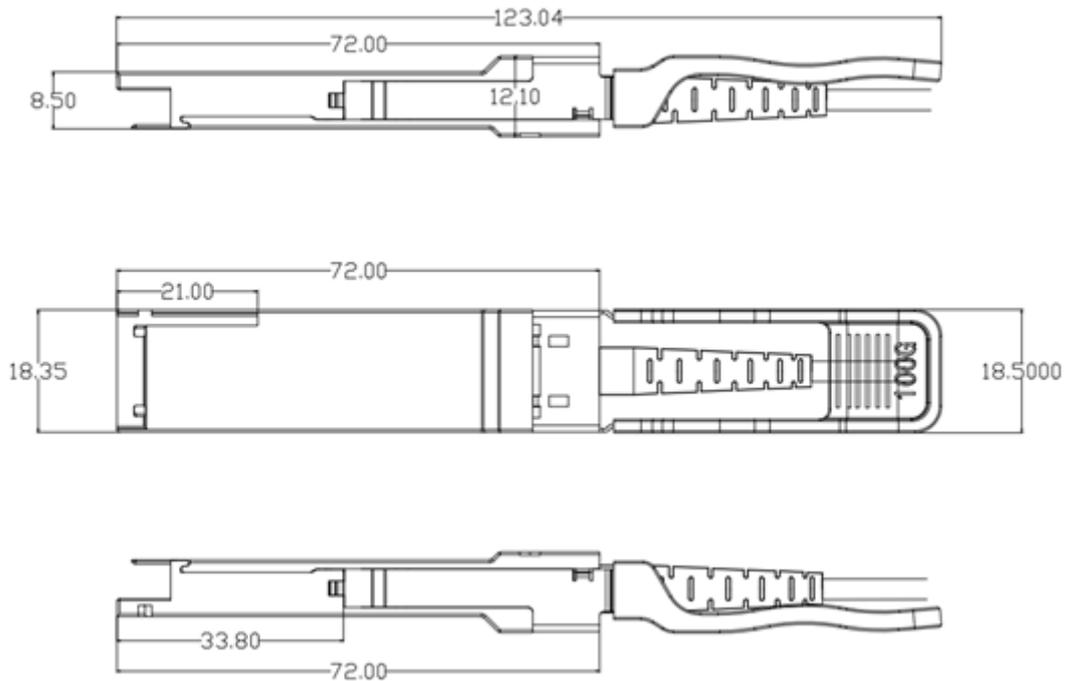
100G QSFP28 AOC

Part Number	Data Rate	Wavelength (nm)	Cable Distance	Temp.
P45**RC00xxM-1	100G	850nm	1~100m	C

Note:xx for length of fiber cable(m)

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3.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKING



Unit is millimeter. All dimensions are mm

4. Absolute Maximum Ratings & Recommended Operating Conditions

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit	Note
Storage Temperature	T _s	-40	+85	°C	
Relative Humidity	RH	0	85	%	

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
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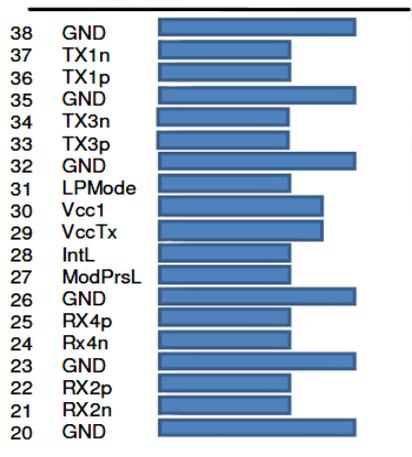
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Operating Case Temperature	TC	0		70	°C	
Power Supply Voltage	V _{cc}	3.135		3.465	V	
Signaling Rate each Channel		-	25.78125	-	Gbps	
Data Rate Accuracy		-100		100	ppm	
Pre-FEC Bit Error Ratio				5e-5		
Post-FEC Bit Error Ratio				1e-12		

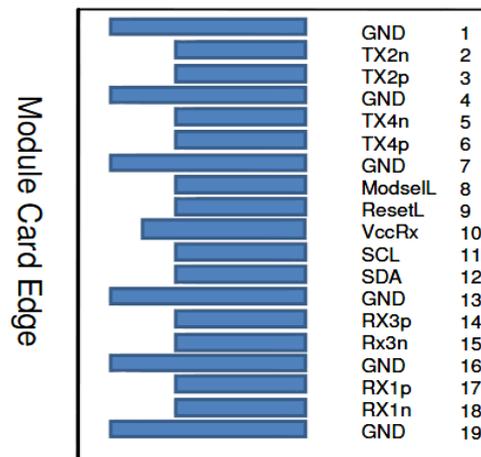
Notes: FEC provided by host system.

Electrical Operating Characteristic						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Power Consumption					2.5	W
Supply Current	I _{cc}				750	mA

5. Applications Note :



Top Side
Viewed From Top



Bottom Side
Viewed From Bottom

Pin Definitions

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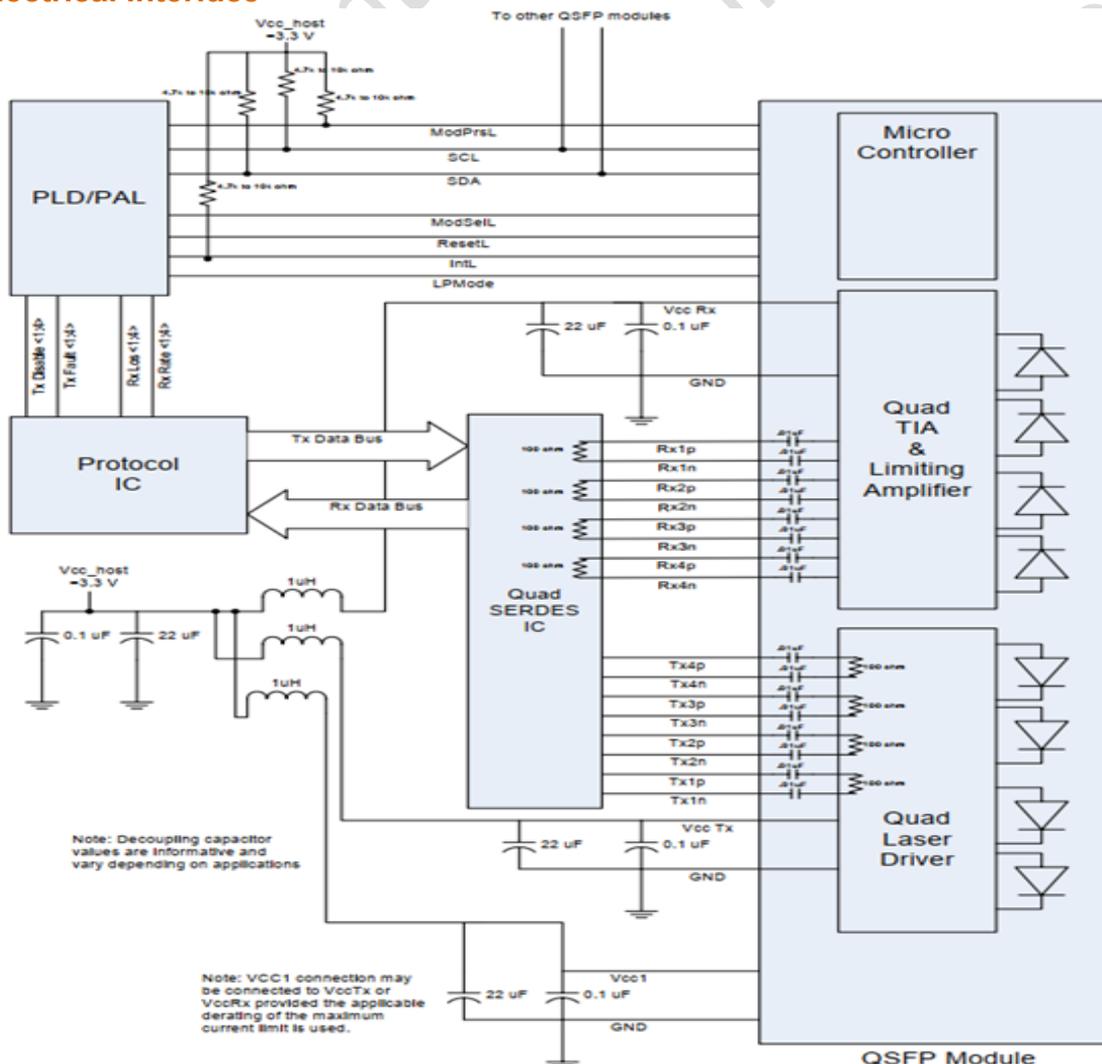
Pin Assignment

Pin	Logic	Name/Description	Note
1	GND	Ground	
2	Tx2n	Transmitter Inverted Data Input	
3	Tx2p	Transmitter Non-Inverted Data Input	
4	GND	Ground	
5	Tx4n	Transmitter Inverted Data Input	
6	Tx4p	Transmitter Non-Inverted Data Input	
7	GND	Ground	
8	ModSelL	Module Select	
9	ResetL	Module Reset	
10	Vcc Rx	+3.3V Power Supply Receiver	
11	SCL	2-wire serial interface clock	
12	SDA	2-wire serial interface data	
13	GND	Ground	
14	Rx3p	Receiver Non-Inverted Data Output	
15	Rx3n	Receiver Inverted Data Output	
16	GND	Ground	
17	Rx1p	Receiver Non-Inverted Data Output	
18	Rx1n	Receiver Inverted Data Output	
19	GND	Ground	
20	GND	Ground	
21	Rx2n	Receiver Inverted Data Output	
22	Rx2p	Receiver Non-Inverted Data Output	
23	GND	Ground	
24	Rx4n	Receiver Inverted Data Output	
25	Rx4p	Receiver Non-Inverted Data Output	
26	GND	Ground	
27	ModPrsL	Module Present	
28	IntL	Interrupt	
29	VccTx	+3.3V Power supply transmitter	
30	Vcc1	+3.3V Power supply	
31	LPMoDe	Low Power Mode	

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32	GND	Ground
33	Tx3p	Transmitter Non-Inverted Data Input
34	Tx3n	Transmitter Inverted Data Input
35	GND	Ground
36	Tx1p	Transmitter Non-Inverted Data Input
37	Tx1n	Transmitter Inverted Data Input
38	GND	Ground

Electrical Interface



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Digital Diagnostic Function

The following characteristics are defined over recommended operating conditions

Parameter	Accuracy	Unit
Internally measured transceiver temperature	+/-3	deg.C
Internally measured transceiver supply voltage	+/-3	%
Measured Tx bias current	+/-10	%
Measured Tx output power	+/-3	dB
Measured Rx received average optical power	+/-3	dB

6. Modification History

Rev.	Comments	Date	Originator	Approval
01	Preliminary Draft	2023.12.26	Andy Yang	Mike Sun

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