规　　格　　书

SPECIFICATION

产品名称 Product Name	100G QSFP28 to 4*25G SFP28 AOC
产品型号 Product Model	SAHP-85xxNC-4
发布日期 Release Date	2021 年 9 月 25 日

浙江一舟电子科技股份有限公司
ZHEJIANG SHIP ELECTRONICS TECHNOLOGY CO., LTD.

一、产品简介

AOC 有源光缆集成了多模光纤光缆和光收发、控制芯片，具有传输速率高、体积小、高可靠、低功耗、低成本等特性，广泛应用于 IDC，大数据等领域；100G QSFP28 to 4*25G SFP28 AOC 一端为 QSFP28 接口另一端 4 个 SFP28 接口，中间采用多模光纤，传输速率达 25.78125Gbps 每通道。

二、产品特点

- 集光模块、光跳线于一体的有源光缆跳线
- 支持 4x25GBASE-SR 光纤通道应用
- 速率 up to 25.78125Gbps 每通道；
- 传输距离 up to 50m (OM3)
- 电源电压3.3V
- 低功耗2.5W
- 工作温度0-70℃

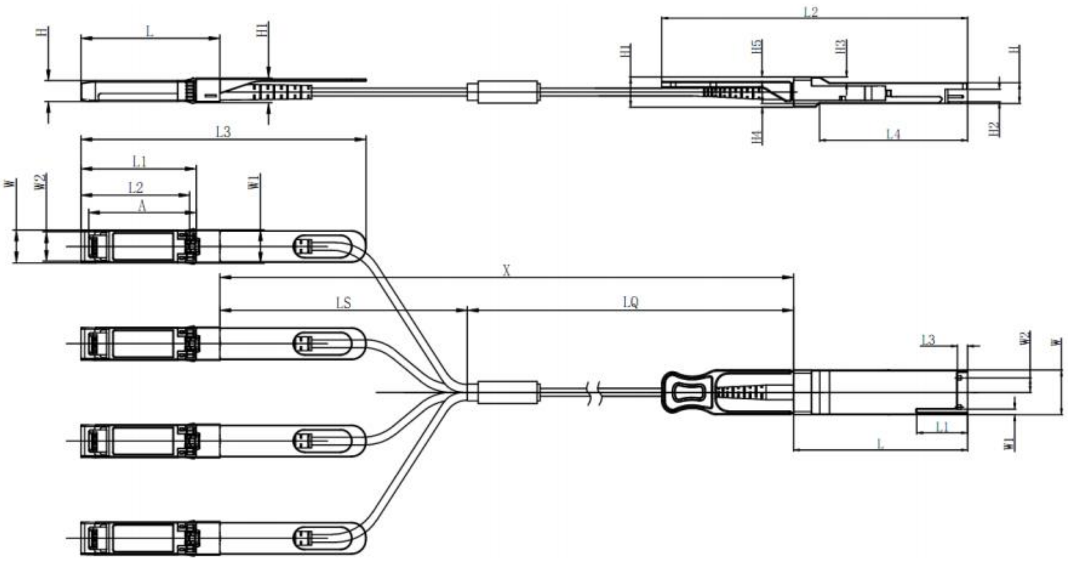
三、产品标准

- QSFP28 MSA SFF-8636
- SFP28 MSA SFF-8431 and SF-8472

四、产品图片、规格、尺寸

1、产品图片

2、产品尺寸



Unit mm

QSFP28	L	L1	L2	L3	L4	W	W1	W2	H	H1	H2	H3	H4	H5	H6
Max	72.2	-	128	4.35	61.4	18.45	-	6.2	8.6	12.4	5.35	2.5	1.6	2.0	-
Type	72.0	-	-	4.20	61.2	18.35	-	-	8.5	12.2	5.2	2.3	1.5	1.8	6.55
Min	68.8	16.5	124	4.05	61.0	18.25	2.2	5.8	8.4	12.0	5.05	2.1	1.3	1.6	-

SFP28	L	L1	L2	L3	W	W1	W2	H	H1	A
Max	57.6	47.7	44.55	119.9	13.8	14.0	12.3	8.7	10.3	45.25
Type	57.4	47.5	44.35	117.9	13.55	13.8	12.1	8.5	10.1	45
Min	57.2	47.3	44.15	115.9	13.3	13.6	11.9	8.4	9.9	44.65

五、物理性能：

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Operating Case Temperature	T_C	0	-	+70	°C	
Storage Temperature	T_s	-40	-	+85	°C	
Operating Humidity	RH	+5	-	+85	%	
Cable Diameter	D	-	3	-	mm	
Fiber Bend Radius	Rb	3	-	-	cm	

六、电气性能：

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.14	3.3	3.47	V	
Power Dissipation per QSFP28	Pd	-	-	2.5	W	
Power Dissipation per SFP28	Pd	-	-	1.0	W	

Bit Rate	BR	-	25.78125	-	Gbps	

QSFP28 电气性能：

Parameter		Symbol	Min.	Typ.	Max.	Units	Notes
ModSelL	Module Select	V_{OL}	0	-	0.8	V	
	Module Unselect	V_{OH}	2.5	-	V_{CC}	V	
LPMode	Low Power Mode	V_{IL}	0	-	0.8	V	
	Normal Operation	V_{IH}	2.5	-	V_{CC}+0.3	V	
ResetL	Reset	V_{IL}	0	-	0.8	V	
	Normal Operation	V_{IH}	2.5	-	V_{CC}+0.3	V	
ModPrsL	Normal Operation	V_{OL}	0	-	0.4	V	
IntL	Interrupt	V_{OL}	0	-	0.4	V	
	Normal Operation	V_{oH}	2.4	-	V_{CC}	V	
Electrical Transmitter Characteristics							
Differential Date Input Swing		V_{out}	200	-	1600	mV	
Output Differential Impedance		Z_D	90	100	110	Ω	
Electrical Receiver Characteristics							
Differential Data Output Swing		$V_{in,P-P}$	200	-	800	mV_{PP}	
Bit Error Rate		BER			E-12		1
Input Differential Impedance		Z_{IN}	90	100	110	Ω	

SFP28 电气性能：

Parameter		Symbol	Min.	Typ.	Max.	Units	Notes
Electrical Transmitter Characteristics							
Differential Data Input Swing		$V_{in,P-P}$	200	-	1600	mV_{PP}	
Input Differential Impedance		Z_{IN}	90	100	110	Ω	
Tx_Fault	Normal Operation	V_{OL}	0	-	0.8	V	
	Transmitter Fault	V_{OH}	2.0	-	V_{CC}	V	
Tx_Disable	Normal Operation	V_{IL}	0	-	0.8	V	
	Laser Disable	V_{IH}	2.0	-	V_{CC}+0.3	V	
Electrical Receiver Characteristics							
Differential Date Output		V_{out}	400	-	800	mV	
Bit Error Rate		BER	-	-	E-12	-	
Output Differential Impedance		Z_D	90	100	110	Ω	
Rx_LOS	Normal Operation	V_{OL}	0	-	0.8	V	
	Lose Signal	V_{oH}	2.0	-	V_{CC}	V	

七、接口电路：

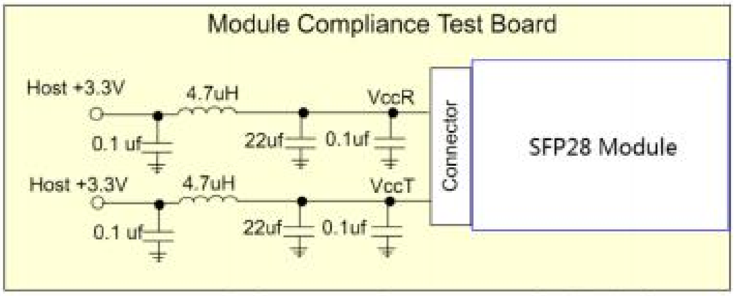
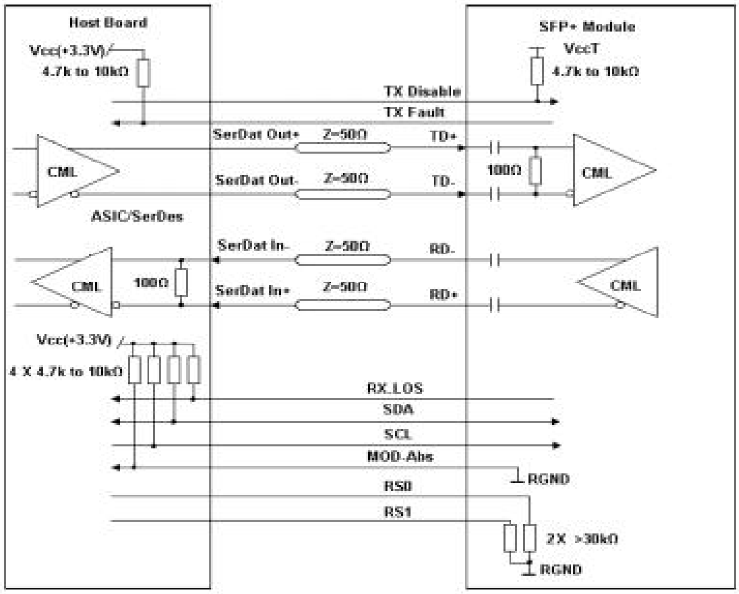
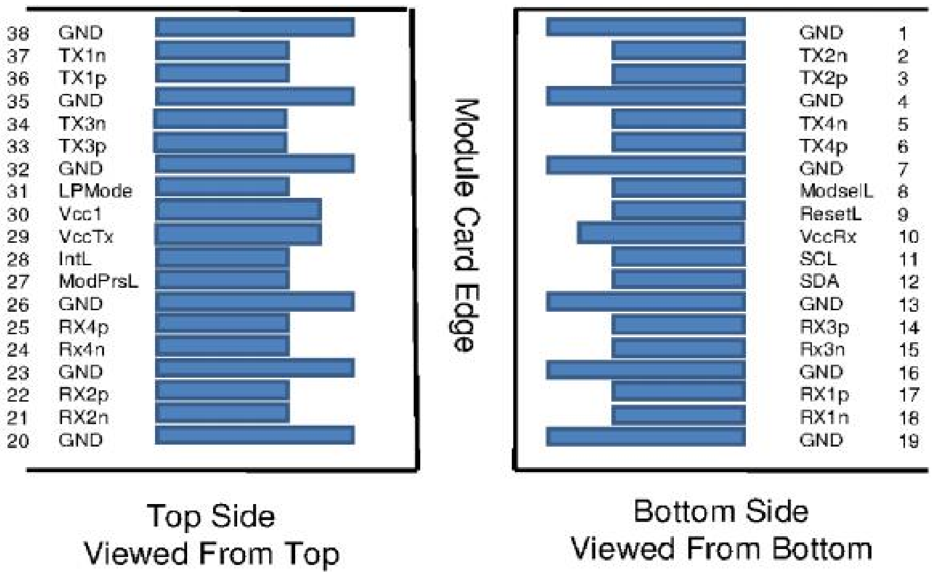


Figure 1, Recommended Host Board Power Supply Circuit for SFP28



八、PIN 脚排列及定义：

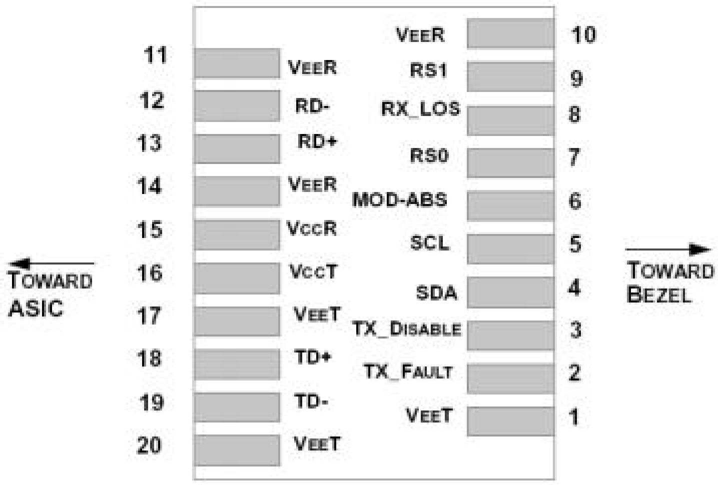
QSFP28：



Pin	Symbol	Name/Description	Notes
1	GND	Ground	1
2	Tx2n	Transmitter Inverted Data Input	
3	Tx2p	Transmitter Non-Inverted Data Input	
4	GND	Ground	1
5	Tx4n	Transmitter Inverted Data Input	
6	Tx4p	Transmitter Non-Inverted Data Input	
7	GND	Ground	1
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	1
14	Rx3p	Receiver Non-Inverted Data Output	
15	Rx3n	Receiver Inverted Data Output	
16	GND	Ground	1
17	Rx1p	Receiver Non-Inverted Data Output	
18	Rx1n	Receiver Inverted Data Output	
19	GND	Ground	1
20	GND	Ground	1
21	Rx2n	Receiver Inverted Data Output	
22	Rx2p	Receiver Non-Inverted Data Output	
23	GND	Ground	1
24	Rx4n	Receiver Inverted Data Output	

Pin	Symbol	Name/Description	Notes
25	Rx4p	Receiver Non-Inverted Data Output	
26	GND	Ground	1
27	ModPrsL	Module Present	
28	IntL	Interrupt	
29	Vcc Tx	+3.3V Power supply transmitter	
30	Vcc1	+3.3V Power supply	
31	LPMode	Low Power Mode	
32	GND	Ground	1
33	Tx3p	Transmitter Non-Inverted Data Input	
34	Tx3n	Transmitter Inverted Data Input	
35	GND	Ground	1
36	Tx1p	Transmitter Non-Inverted Data Input	
37	Tx1n	Transmitter Inverted Data Input	
38	GND	Ground	1

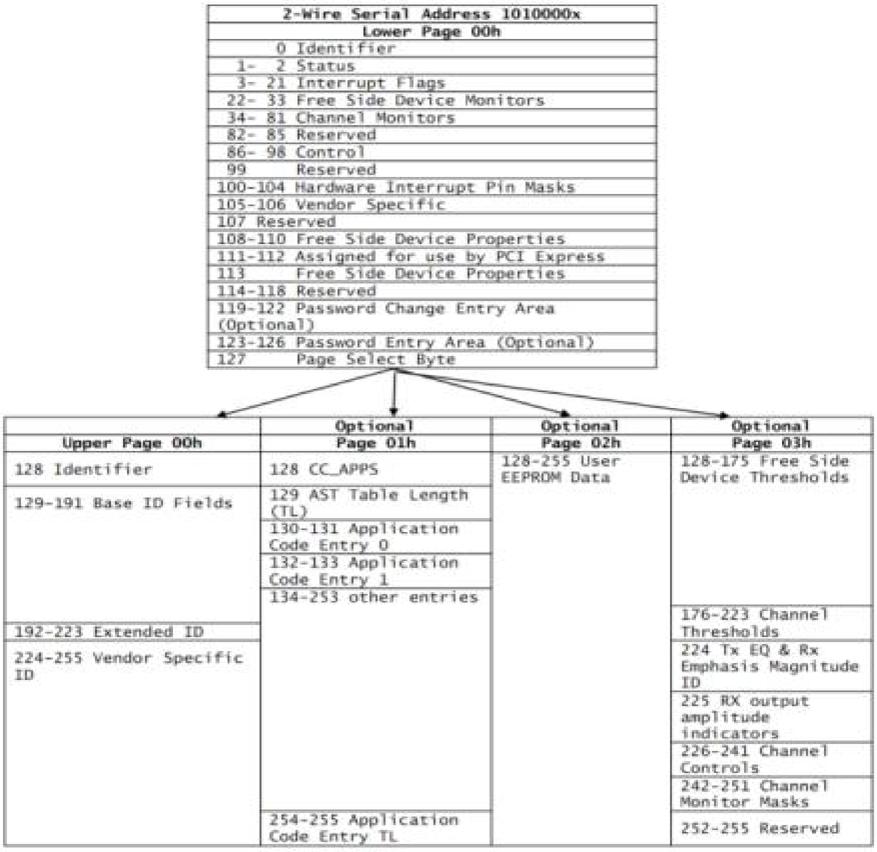
SFP28：



Pin	Symbol	Name/Description	Notes
1	VEET	Module Transmitter Ground	1
2	TX_FAULT	Module Transmitter Fault	2
3	TX_DISABLE	Transmitter Disable; Turns off transmitter laser output	3
4	SDA	2-Wire Serial Interface Data Line (MOD-DEF2)	
5	SCL	2-Wire Serial Interface Clock (MOD-DEF1)	
6	MOD_ABS	Module Absent, connected to V_{EE}T or V_{EE}R in the module	2
7	RS0	Rate Select 0, optionally controls SFP+ module receiver	4
8	RX_LOS	Receiver Loss of Signal Indication (In FC designated as Rx_LOS and in Ethernet designated as NOT Signal Detect)	2
9	RS1	Rate Select 1, optionally controls SFP+ module transmitter	4

Pin	Symbol	Name/Description	Notes
10	V_{EE}R	Module Receiver Ground	1
11	V_{EE}R	Module Receiver Ground	1
12	RD-	Receiver Inverted Data Output	
13	RD+	Receiver Non-Inverted Data Output	
14	V_{EE}R	Module Receiver Ground	1
15	V_{CC}R	Module Receiver 3.3 V Supply	
16	V_{CC}T	Module Transmitter 3.3 V Supply	
17	V_{EE}T	Module Transmitter Ground	1
18	TD+	Transmitter Non-Inverted Data Input	
19	TD-	Transmitter Inverted Data Input	
20	V_{EE}T	Module Transmitter Ground	1

九、监控接口规格：



十、产品包装

外包装箱规格：

长*宽*高（cm）	
装箱数	
整箱参考重量	

十一、订购信息

产品编号	产品型号	产品名称	描述
F7163150013	SAHP-85xxNC-4	100G-4*25G AOC 线缆	一端 100G QSFP28，另一端 4*25G SFP28 AOC 线缆（850nm，DDM 长度可订制 0.5~100m）

十二、修改记录

修改时间	修改内容	版本号
2021.12.6	定义版本号	V.0