

**Multi-Mode 100GBASE-SR4
QSFP28 Transceiver
RoHS6 Compliant**



Features

- ◆ Compliant to the IEEE 802.3bm(100GBASE-SR4)
- ◆ Compliant to the SFF-8665 Specification
- ◆ Active Optical Cables Length up to 70m
- ◆ VCSEL array transmitter and PIN array receiver
- ◆ Low Power dissipation <3.5W
- ◆ Operating Case Temperature: 0°C~+70°C

Applications

- ◆ 100G_BASE_SR4 Ethernet interconnects

Ordering Information

Part No.	Data Rate	AOC Length ^{*(note2)}	Temp.	DDMI
SNR-QSFP28-AOC-XX ^{*(note1)}	100Gbps	1~70m	0°C~+70°C	Yes

Note1: Standard version.

Note2: Length measured OM3 fiber. XX denotes the AOC length with unit meter. For example, 01 denotes 1m, 02 denote 2m ... 70 denote70m.

*The product image only for reference purpose.

Regulatory Compliance*

Product Certificate	Certificate Number	Applicable Standard
TUV	R50135086	EN 60950-1:2006+A11+A1+A12+A2
		EN 60825-1:2014
		EN 60825-2:2004+A1+A2
UL	E317337	UL 60950-1
		CSA C22.2 No. 60950-1-07
EMC CE	AE 50285865 0001	EN 55022:2010
		EN 55024:2010
FCC	WTF14F0514417E	47 CFR PART 15 OCT., 2013
FDA	/	CDRH 1040.10
ROHS	/	2011/65/EU

*The above certificate number updated to June 2014, because some certificate will be updated every year, such as FDA and ROHS.

Absolute Maximum Ratings

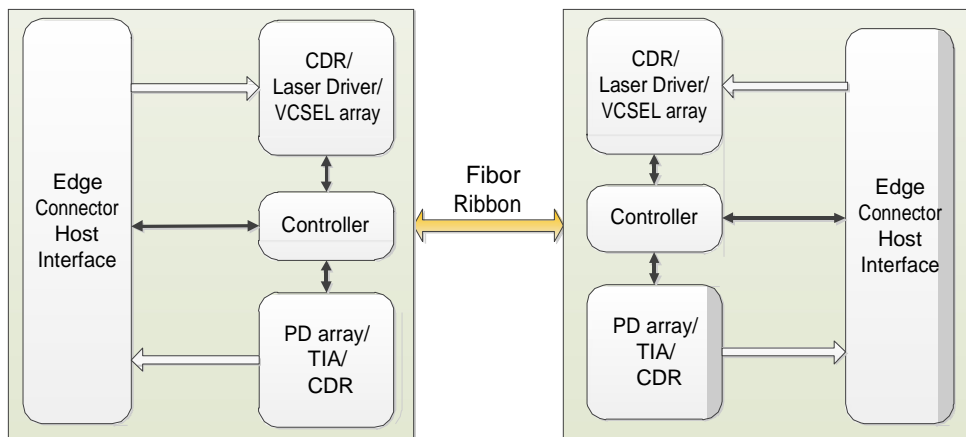
Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	T _s	-40	+85	°C
Supply Voltage	V _{cc}	-0.5	3.6	V
Operating Relative Humidity	RH	5	85	%

*Exceeding any one of these values may destroy the device immediately.

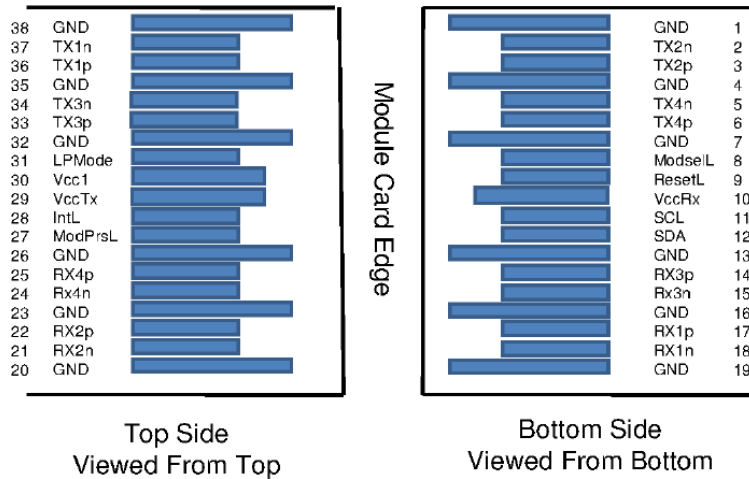
Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	T _c SNR-QSFP28-AOC-XX	0		+70	°C
Power Supply Voltage	V _{cc}	3.15	3.3	3.45	V
Aggregate Bit Rate	BR _{AVE}		103.12		Gbps
Lane Bit Rate	BR _{LANE}		25.78		Gbps

Functional Description of Transceiver



QSFP28 Transceiver Electrical Pad Layout



Pin Arrangement and Definition

Pin	Logic	Symbol	Description	Plug Sequence	Notes
1		GND	Ground	1	1
2	CML-I	Tx2n	Transmitter Inverted Data Input	3	
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input	3	
4		GND	Ground	1	1
5	CML-I	Tx4n	Transmitter Inverted Data Input	3	
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input	3	
7		GND	Ground	1	1
8	LVTTL-I	ModSelL	Module Select	3	
9	LVTTL-I	ResetL	Module Reset	3	
10		VccRx	+3.3V Power Supply Receiver	2	2
11	LVC MOS- I/O	SCL	2-wire serial interface clock	3	
12	LVC MOS- I/O	SDA	2-wire serial interface data	3	
13		GND	Ground	1	1
14	CML-O	Rx3p	Receiver Non-Inverted Data Output	3	
15	CML-O	Rx3n	Receiver Inverted Data Output	3	
16		GND	Ground	1	1
17	CML-O	Rx1p	Receiver Non-Inverted Data Output	3	
18	CML-O	Rx1n	Receiver Inverted Data Output	3	
19		GND	Ground	1	1
20		GND	Ground	1	1
21	CML-O	Rx2n	Receiver Inverted Data Output	3	

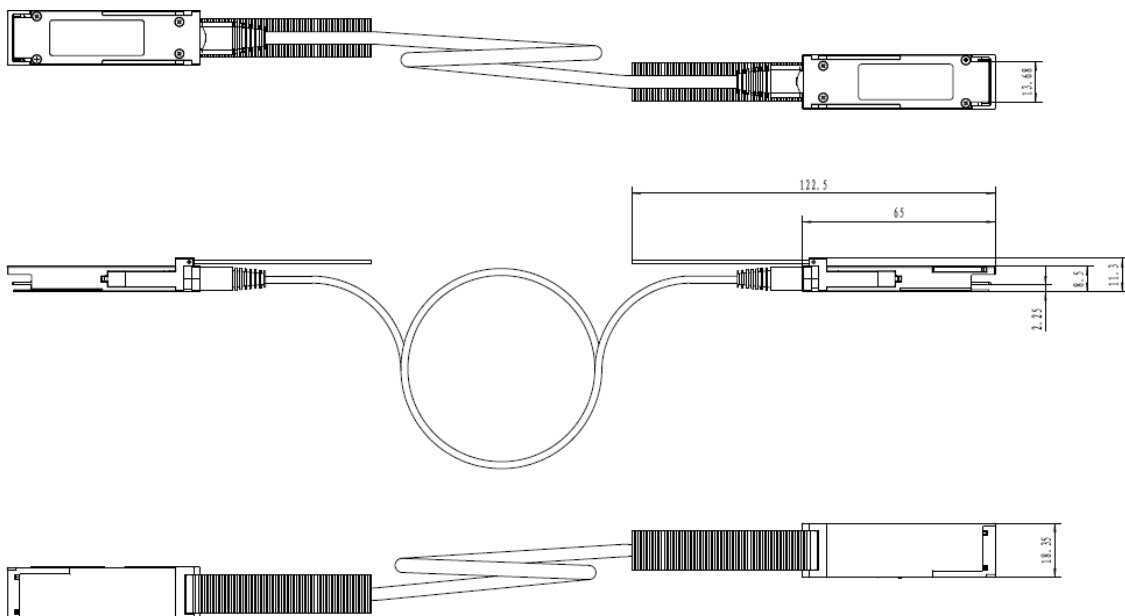
QSFP28, 100G BASE Series

22	CML-O	Rx2p	Receiver Non-Inverted Data Output	3	
23		GND	Ground	1	1
24	CML-O	Rx4n	Receiver Inverted Data Output	3	
25	CML-O	Rx4p	Receiver Non-Inverted Data Output	3	
26		GND	Ground	1	1
27	LVTTL-O	ModPrsL	Module Present	3	
28	LVTTL-O	IntL	Interrupt	3	
29		VccTx	+3.3V Power supply transmitter	2	2
30		Vcc1	+3.3V Power supply	2	2
31	LVTTL-I	LPMODE	Low Power Mode	3	
32		GND	Ground	1	1
33	CML-I	Tx3p	Transmitter Non-Inverted Data Input	3	
34	CML-I	Tx3n	Transmitter Inverted Data Input	3	
35		GND	Ground	1	1
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input	3	
37	CML-I	Tx1n	Transmitter Inverted Data Input	3	
38		GND	Ground	1	1

1: GND is the symbol for signal and supply (power) common for the QSFP28 module. All are common within the QSFP28 module and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane.

2: Vcc Rx, Vcc1 and Vcc Tx are the receiver and transmitter power supplies and shall be applied concurrently. Requirements defined for the host side of the Host Edge Card Connector are listed in Table 6. Recommended host board power supply filtering is shown in Figures 3 and 4. Vcc Rx Vcc1 and Vcc Tx may be internally connected within the QSFP28 Module in any combination. The connector pins are each rated for a maximum current of 500mA.

Mechanical Specifications



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