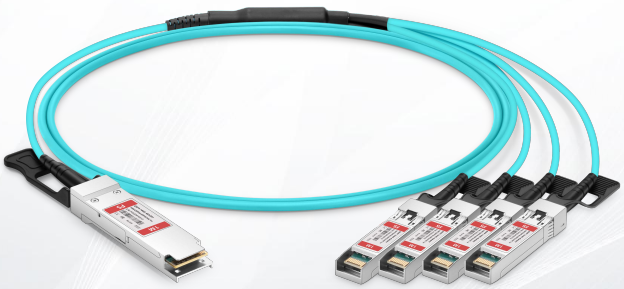
100G QSFP28 to 4x25G SFP28 Breakout Active Optical Cable(AOC)

QSFP-100G-4SAOxxx



Application

- 100GBASE SR4 Ethernet
- 25GBASE SR Ethernet

Features

- 4 independent full-duplex channels
- Up to 25.78Gb/s data rate perchannel
- QSFP28 and SFP28 MSA
- Low Power Dissipation: QSFP28 <2.2W; SFP28 <0.8W
- Operating case temperature: 0 to 70° C
- VCSEL Array Transmitter and PIN Array Receiver

Description

The QSFP-100G-4SAOxxx is a 4-Channel, pluggable, parallel, fiber-optic 100G QSFP28 to 4x25G SFP28 AOC.
This transceiver is a high

performance module for short-range multi-lane data communication and interconnect applications. It integrates 4 data lanes in each direction with 100Gbps bandwidth.

These modules are designed to operate over multimode fiber systems using a nominal wavelength of 850nm. The electrical interface uses a 38@QSFP28 and 20@SFP 28 contact edge type connector.

Product Specifications

I. Absolute Maximum Ratings

It has to be noted that the operation in excess of any individual absolute maximum rating smight cause permanent damage to this module.

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power Supply Voltage	V_{CC}	-0.5		+3.6	V
Storage Temperature	T_c	-40		+85	℃
Relative Humidity	RH	0		85	%

II. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	V_{CC}	3.15	3.30	3.45	V
Case Operating Temperature	Tca	0	-	70	℃
Case Operating Temperature		-40		85	℃
Data Rate Per Lane	DR	-	25.78125	-	Gbps
Fiber Bend Radius	R_b	3	-	-	cm

Notes:
1. Supply current is shared between VCCTX and VCCRX.
2. In-rush is defined as current level above steady state current requirements.

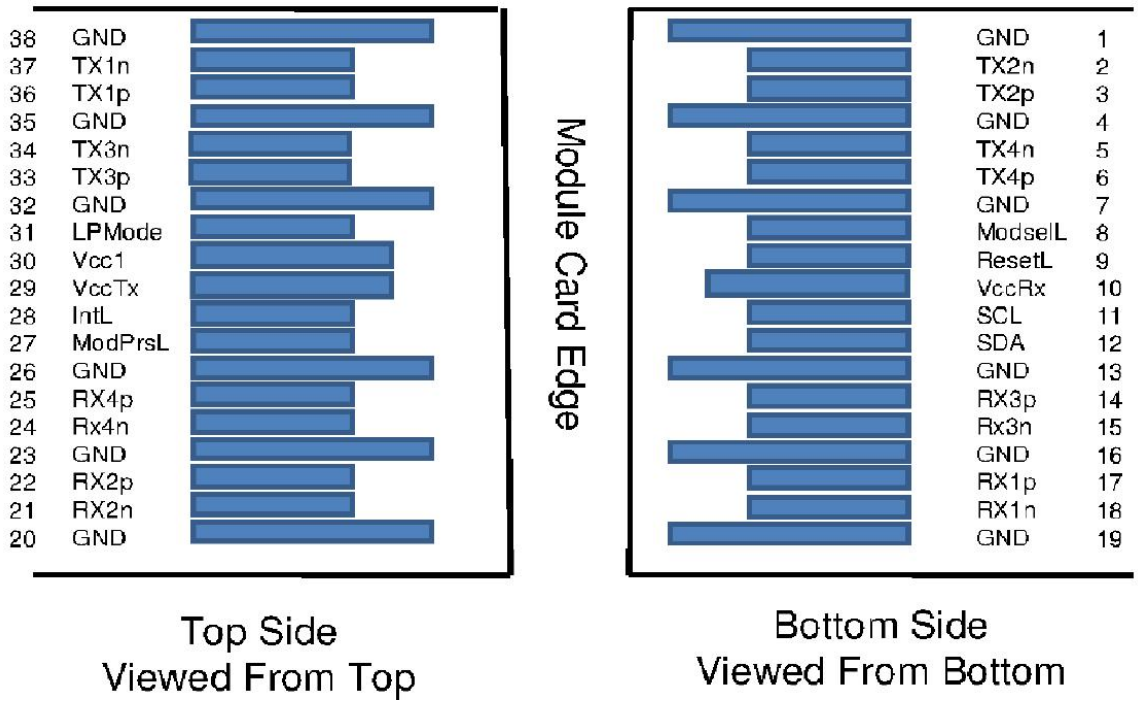
III. Transmitter Optical Characteristics

Parameter	Symbol	Unit	Min.	Typ.	Max.
Input Differential Impedance	Rin	Ω	90	100	110
Differential Input Voltage Swing, per lane	Vin	mV	300		1100
Transmit Disable Voltage	VD	V	2.0	-	V_{CC}+0.3
Transmit Enable Voltage	Ven	V	Vee		V_{ee}+0.8

Ⅳ. Receiver Optical Characteristics

Parameter	Symbol	Unit	Min.	Typ.	Max.
Differential Output Swing, per lane	Vout	300		900	800
Bit Error Rate(Note1)	BER	-	-	10^{-12}	10^{-12}
Output Differential Impedance	Rout	90	100	110	110
Loss of Signal –Asserted	-	2.0	-	V_{CC}+0.3	V_{CC}+0.3
Loss of Signal –Negated	-	V_{ee}		V_{ee}+0.8	V_{ee}+0.8

V. Pin Function Definitions (QSFP28 end)

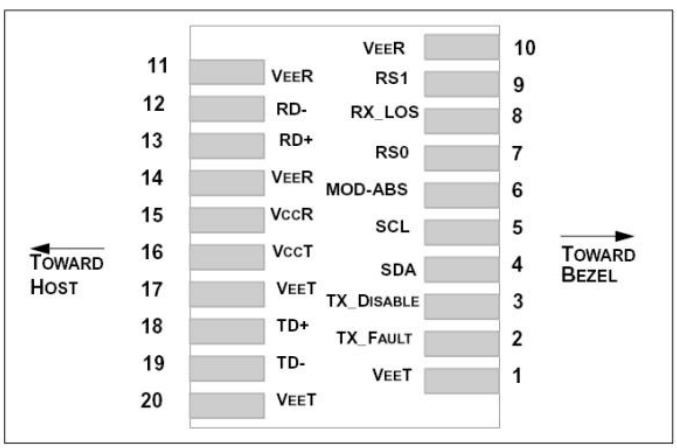


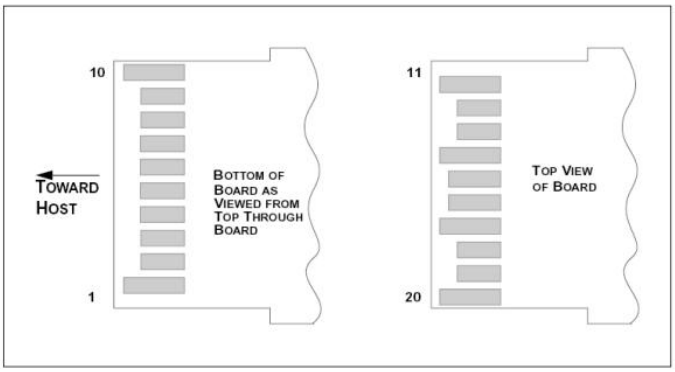
Pin	Symbol	Description
1	GND	Ground
2	Tx2n	Transmitter Inverted Data Input
3	Tx2p	Transmitter Non-Inverted Data Input
4	GND	Ground
5	Tx4n	Transmitter Inverted Data Input
6	Tx4p	Transmitter Non-Inverted Data Input
7	GND	Ground
8	ModSelL	Module Select
9	ResetL	Module Reset

Pin	Symbol	Description
10	Vcc Rx	+3.3 V 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	+3.3 V Power supply transmitter
30	VCC1	+3.3 V Power Supply

Pin	Symbol	Description
31	LPMode	Low Power Mode
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

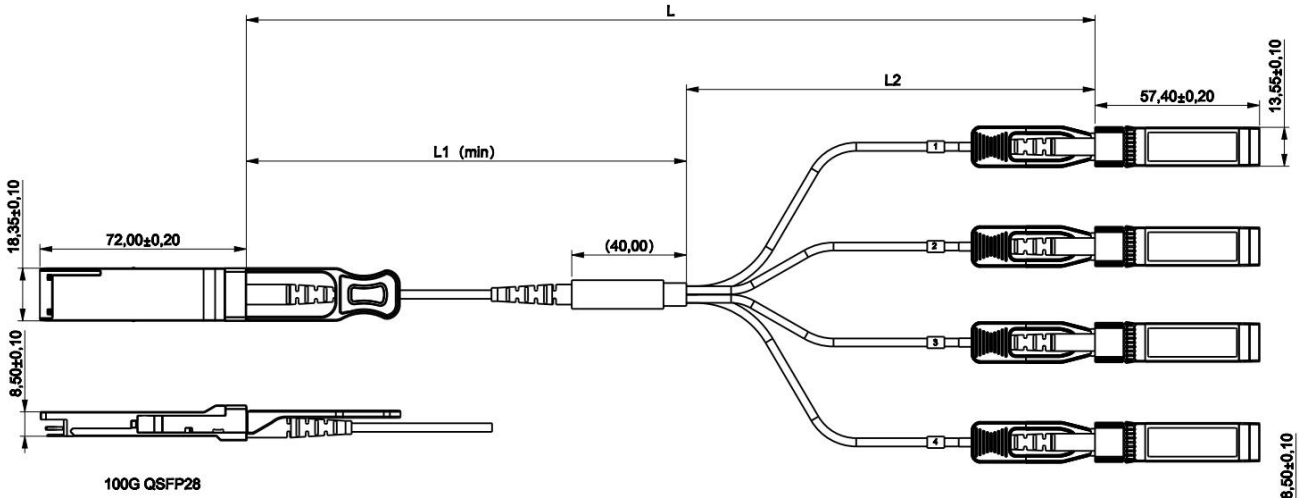
VI. Pin Function Definitions (SFP28 end)





Pin	Symbol	Description
1	VEET	TransmitterGround
2	Tx_FAULT	TransmitterFault
3	Tx_DIS	Transmitter Disable. Laser output disabled on high or open
4	SDA	2-wire Serial Interface Data Line
5	SCL	2-wire Serial Interface Clock Line
6	MOD_ABS	Module Absent. Grounded within the module
7	RS0	Rate Select0
8	RX_LOS	Loss of Signal indication. Logic 0 indicates normal operation
9	RS1	Rate Select1
10	VEER	Receiver Ground
11	VEER	Receiver Ground
12	RD-	Receiver Inverted DATA out. AC Coupled
13	RD+	Receiver DATA out. AC Coupled
14	VEER	Receiver Ground
15	VCCR	Receiver Power Supply
16	VCCT	Transmitter Power Supply
17	VEET	Transmitter Ground
18	TD+	Transmitter DATA in. AC Coupled
19	TD-	Transmitter Inverted DATA in. AC Coupled
20	VEET	Transmitter Ground

VII. Mechanical Diagram



Length comparison table

L	L1	L2	Notes
1m	30cm	70cm	The tolerance for branches is +7/-0cm; The length between different branches is +1/-0cm;
2m	60cm	1.4m	
3m	1m	2m	
≥5m	L-3m	3m	

AOC product bagging circle size:

L	Disc fiber diameter (mm)
1m≤L≤5m	110≤Inner diameter, outer diameter≤160
5m<L≤7m	110≤Inner diameter, outer diameter≤170
7m<L≤30m	110≤Inner diameter, outer diameter≤180
30m<L≤50m	110≤Inner diameter, outer diameter≤210
50m<L≤100m	110≤Inner diameter, outer diameter≤250

Length tolerance table:

L	Tolerance (mm)
L≤1 M	+70/-0
1 M<L<7 M	+100/-0
L≥7 M	+2%L/-0

NOTE：UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS

VIII. Order Information

Part Number	Description
QSFP-100G-4SAOxxx	100G QSFP28 to 4x25G SFP28 Breakout Active Optical Cable