

100G QSFP to 4x SFP28 AOC

PN: VIC-Q4SyyyC-AA

Product Overview

The VIC-Q4SyyyC-AA is a 100G QSFP to 4x SFP28 Active Optical Cable (AOC) designed to facilitate 100G to 25G Ethernet interoperability. It aggregates four discrete 25G SFP28 channels into a single 100G QSFP28 parallel interface, supporting maximum link lengths of 70 meters over OM3 multimode fiber or 100 meters over OM4 multimode fiber. The device features electrical interfaces compliant with QSFP28 and SFP28 connectors, operates on a single 3.3V power supply, and is specified for case operating temperatures ranging from 0°C to 70°C.

Features

- Supports 100G to 25G Ethernet interoperability
- Aggregate 4 discrete SFP28 25G channels into single parallel QSFP28 100G interface
- Maximum link length of 70m links on OM3 multimode fiber or 100m links on OM4 multimode Fiber
- Electrical interface compliant to QSFP28 connector and SFP28 connectors
- Single 3.3V power supply
- Case operating temperature 0°C to 70°C
- Compliant to RoHS
- Class I laser Safety



Ordering Information

Part Number	Description
VIC-Q4SyyyC-AA	100G QSFP to 4x SFP28 AOC

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Notes
Storage Temperature	T_s	-40	85	°C	
Power Supply Voltage	V_{CC}	-0.3	3.6	V	
Relative Humidity (non-condensing)	RH	5	85	%	

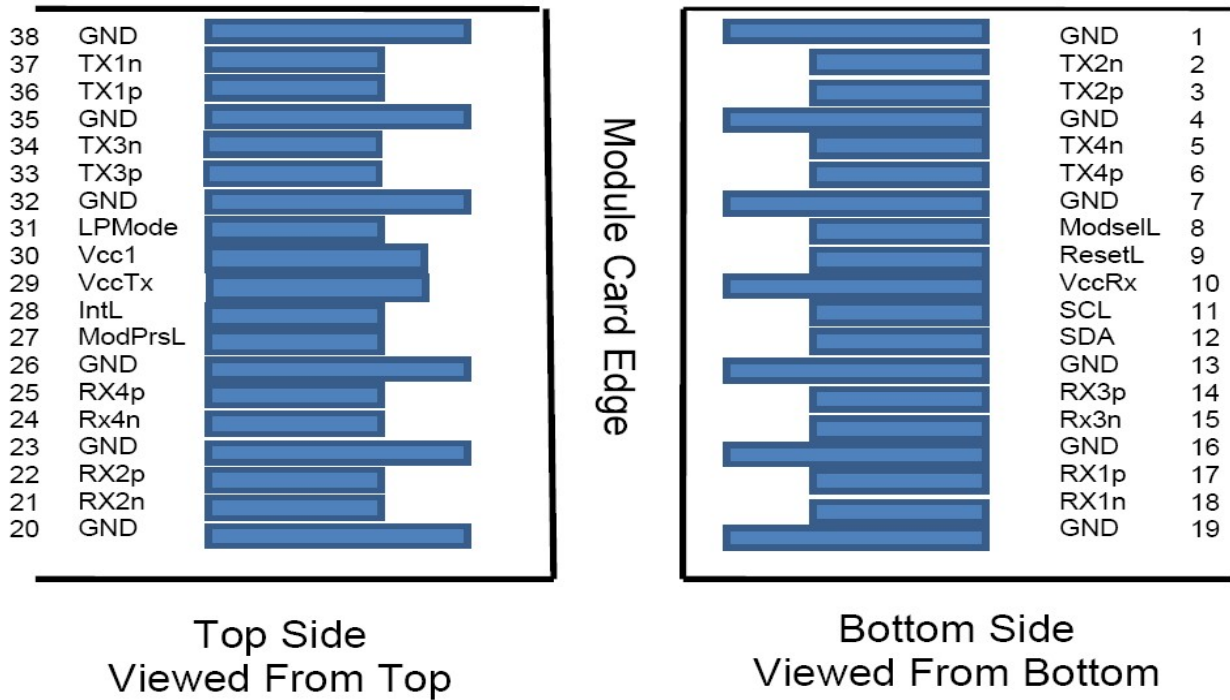
Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	T_{OPR}	0		70	°C
Power Supply Voltage	V_{CC}	3.135	3.3	3.465	V
Max. Power Dissipation (SFP End)	PD			1	W
Max. Power Dissipation (QSFP End)	PD			2.5	W
Signaling Rate per Lane	SRL		25.78		Gbps

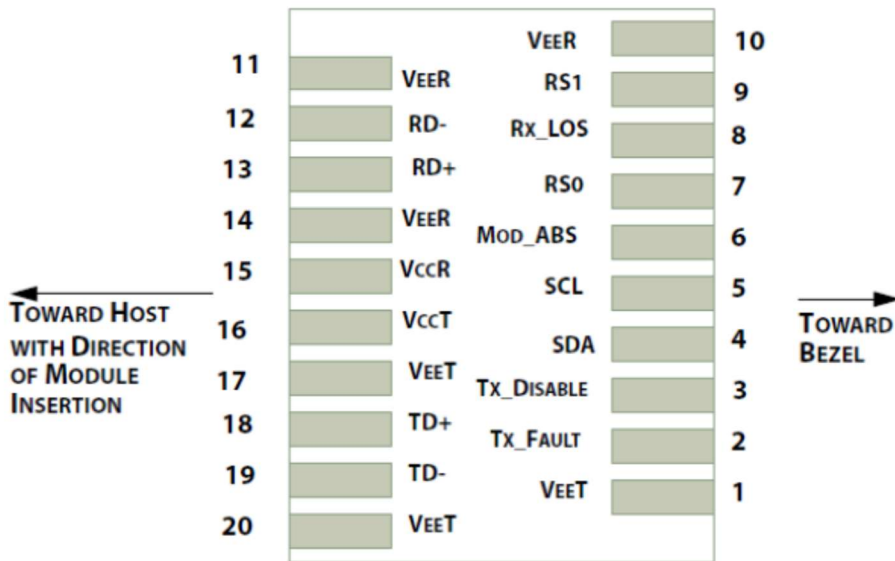
Electrical Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Differential input impedance	Z_{in}	90	100	110	ohm
Differential Output impedance	Z_{out}	90	100	110	ohm
Differential input voltage amplitude	ΔV_{in}	300		1100	mVp-p
Differential output voltage amplitude	ΔV_{out}	500		800	mVp-p
Pre-FEC Bit Error Ratio	BR			5E-5	

Electrical Connector Layout QSFP28



Electrical Connector Layout SFP28

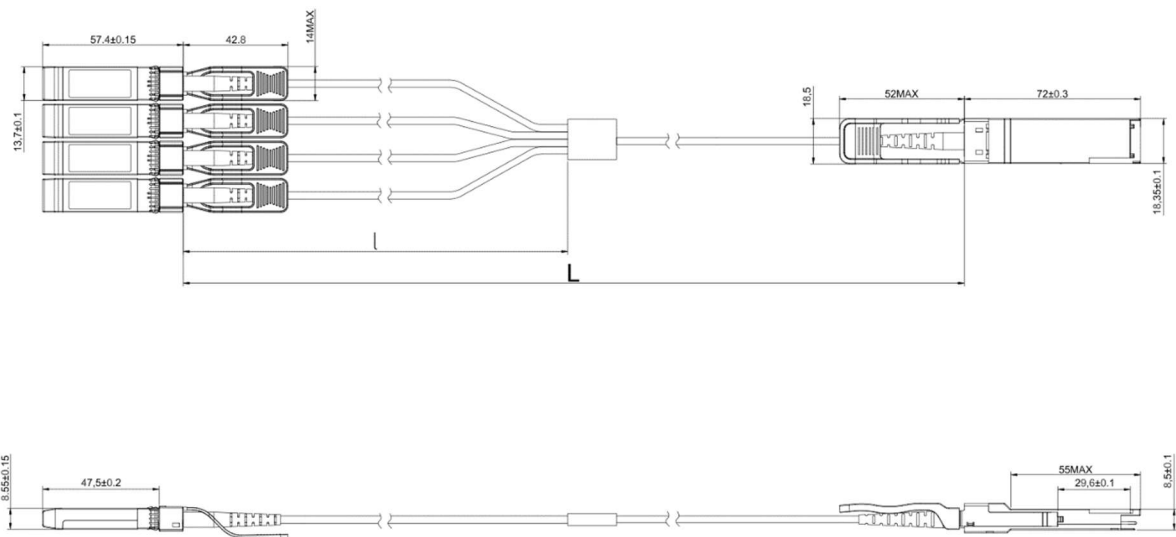


Electrical Pin Definition

Pin	Logic	Symbol	Description	Pin 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		Vcc Rx	+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	
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		Vcc Tx	+3.3V Power supply transmitter	2	2
30		VccI	+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 QSFP module. All are common within the QSFP 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, VccI and Vcc Tx are the receiver and transmitter power supplies and shall be applied concurrently. Recommended host board power supply filtering is shown in below Figures. Vcc Rx VccI and Vcc Tx may be internally connected within the QSFP Module in any combination. The connector pins are each rated for a maximum current of 500 mA.

Mechanical Dimensions



Revision History

Date	Rev	Description
2/1/2024	1.0	Release Version
03/17/2025	1.1	New Template

For more information

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