

100G QSFP28 AOC

Part Number: V1C-Q1QyyyC-AA

V1C-Q1QyyyC-AA is a high performance QSFP28 AOC for 100 Gigabit Ethernet data links.

Features

- Multirate capability: 10 Gbps to 28.05 Gbps per channel
- 4-channel full-duplex
- Single 3.3 V power supply
- Low power consumption: < 2.0 W per cable end
- Up to 100 m
- Hot pluggable
- Commercial operating case temperature range: 0°C to 70°C
- RoHS compliant



Applications

- 10/25/40/50/100G Ethernet
- Proprietary HPC interconnections

Ordering Information

Part Number	Link Length	Data Rate	Laser	Detector	Fiber Type	Temperature
V1C-Q1QyyyC-AA	up to 100m	100G	850nm VCSEL	850nm PIN array	MMF	0 – 70°C
yyy=003	3m					
yyy=005	5m					
yyy=010	10m					
yyy=yyy*	yyym					
V1C-Q1QyyyC-KA	100G QSFP28 Active Optical Cable with CDR bypass enabled by default, yyy is the length in meters.					

* Customized length is available upon request.

Product Overview

Vitex V1C-Q1QyyyC-AA is a 100G QSFP28 AOC used for 100G Ethernet links for up to 100m. These AOCs take full advantage of the high transmission bandwidth, low power consumption and long reach.

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature	T _{STO}	-20	70	°C
Supply Voltage	V _{IN}	0	4.0	V

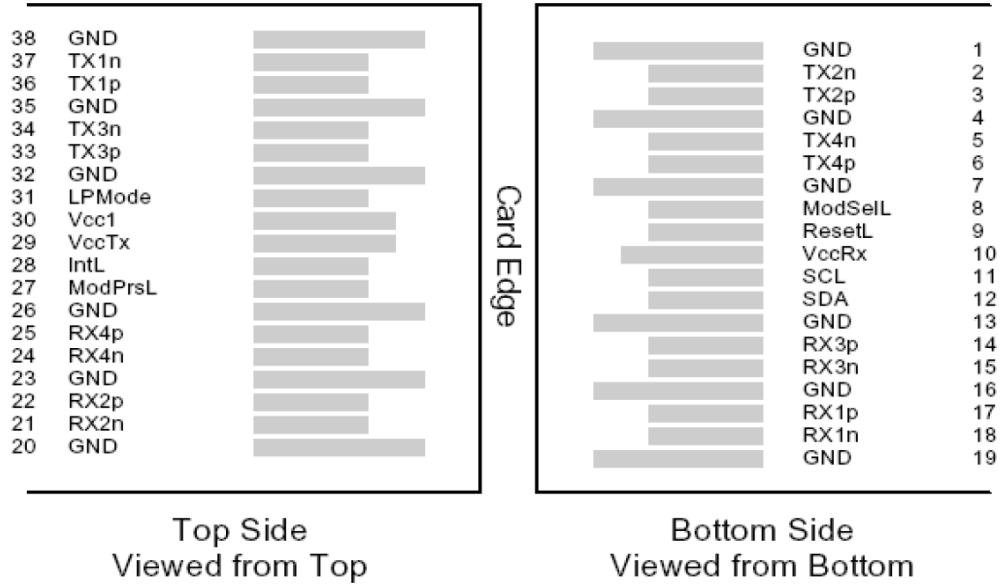
Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	T _{OP}	0		70	°C
Power Supply Voltage	V _{CC}	3.13	3.3	3.47	V
Power Supply Current	I _{CC}	-	600		mA
Power Consumption			2.0		W

Electrical Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Transmitter					
Data Rate	DR	10.00	25.78	28.05	Gb/s
Input Differential Impedance	R _{IN}	-	100	-	Ω
Differential Data Input Swing	V _{INP-P}	-	-	900	mV
Receiver					
Data Rate per channel	DR	10.00	25.78	28.05	Gb/s
Output Differential Impedance	R _{OUT}	-	100	-	Ω
Differential Data Output Swing	V _{OUTP-P}	-	-	800	mV
Raw Bit Error Ratio (@25.78 Gbps; PRBS 2 ³¹ -1)	-	-	-	10 ⁻⁸	-

Electrical Connector Layout



Electrical Pin Definition

Pin	Name	Description	Note
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	2
11	SCL	2-wire serial interface clock	
12	SDA	2-wire serial interface data	
13	GND	Ground	1

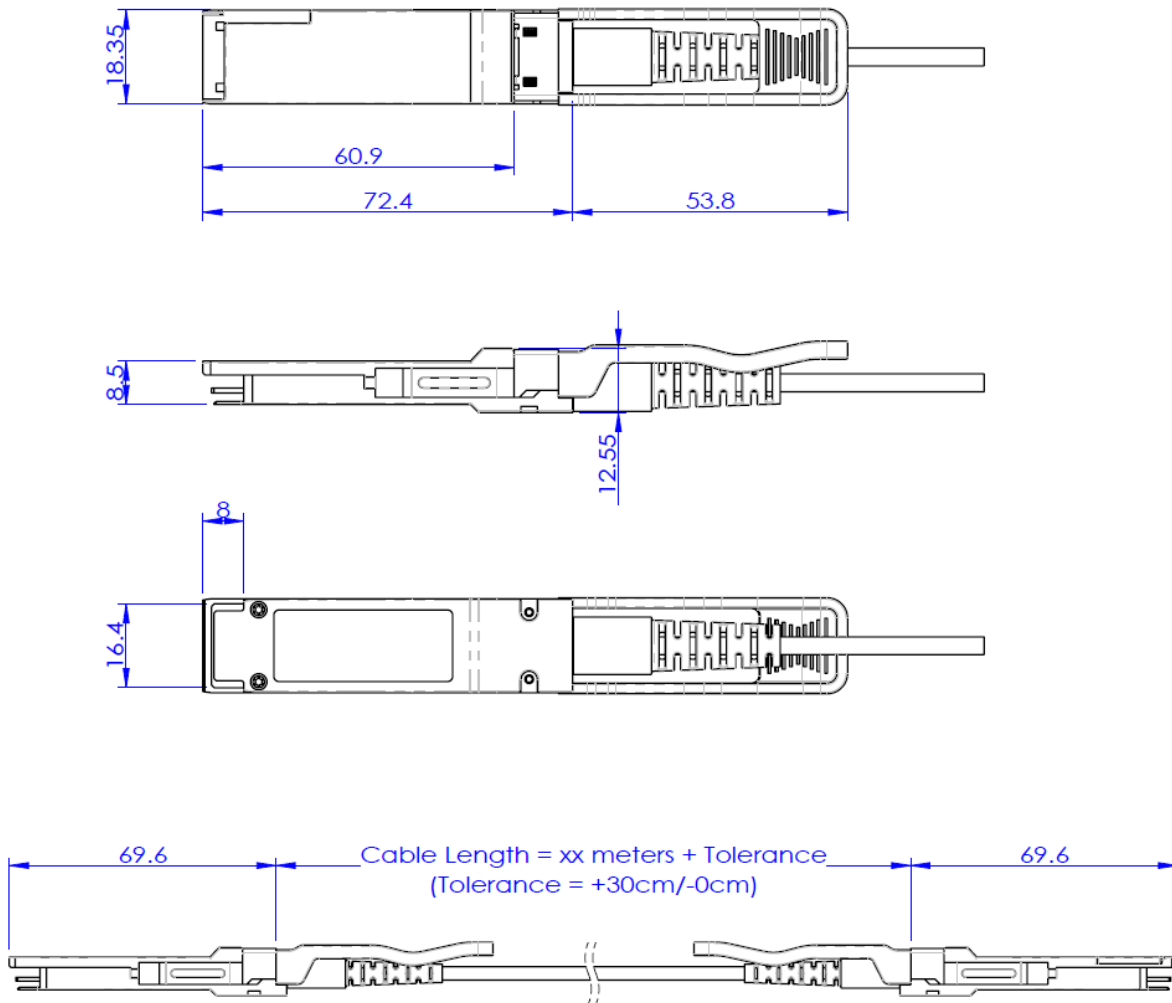
14	Rx3p	Receiver Non-Inverted Data Output	
15	Rx3n	Receiver Inverted Data Output	
16	GND	Ground	1
17	Rx1p	Receiver Non-Inverted Data Output	
18	Rx1n	Receiver Inverted Data Output	
19	GND	Ground	1
20	GND	Ground	1
21	Rx2n	Receiver Inverted Data Output	
22	Rx2p	Receiver Non-Inverted Data Output	
23	GND	Ground	1
24	Rx4n	Receiver Inverted Data Output	
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	2
30	Vcc 1	3.3V Power Supply	2
31	LPMODE	Low Power Mode	3
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

Note :

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, Vcc1 and Vcc Tx are the receiver and transmitter power supplies and shall be applied concurrently. Vcc Rx, Vcc1 and Vcc Tx may be internally connected within the QSFP transceiver module in any combination. The connector pins are each rated for a maximum current of 500 mA.
3. Not used.

Mechanical Dimensions



ALL DIMENSIONS ARE $\pm 0.2\text{mm}$ UNLESS OTHERWISE SPECIFIED
UNIT: mm

Active Optical Cable

Parameter	Value	Unit	Note
Cable Diameter	$\varnothing 3.0 \pm 0.15$	mm	
Minimum Bend Radius	50	mm	
Length Tolerance	+300 / -0	mm	
Cable Jacket	PVC, Aqua (Orange color is available upon request)		

Revision History

Date	Rev	Description
7/28/2020	1.0	Initial release
5/10/2022	1.1	PN update from LBX-AQ100Cyyy to V1C-Q1QyyyC-AA

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