

40G QSFP+ AOC

Part Number: V40-Q1QyyyC-AA

V40-Q1QyyyC-AA is a high performance QSFP+ AOC for 40 Gigabit Ethernet data links.

Features

- Up to 10.3125 Gbps bit rate per lane
- Single 3.3 V power supply
- Low power consumption
- Up to 100 m
- Hot pluggable
- RoHS compliant
- Operating case temperature range: 0°C to 70°C



Applications

- 40G Ethernet
- InfiniBand 4xQDR/DDR/SDR

Ordering Information

Part Number	Link Length	Data Rate	Laser	Detector	Fiber Type	Temperature
V40-Q1QyyyC-AA	up to 100m	40G	850nm VCSEL	850nm PIN array	MMF	0 – 70°C
yyy=003	3m					
yyy=005	5m					
yyy=010	10m					
yyy=yyy*	yyym					

* Customized length is available upon request

Product Overview

Vitex V40-Q1QyyyC-AA is a 40G QSFP+ AOC used for 40G 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}	0	70	°C
Supply Voltage	V_{IN}	0	4.0	V

Recommended Operating Conditions

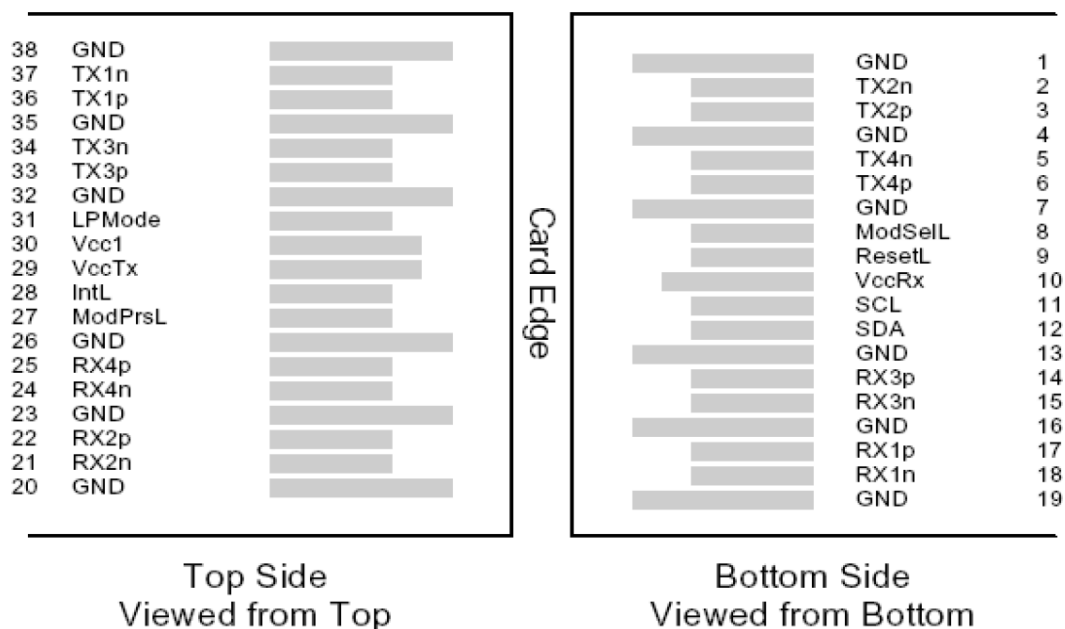
Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	T_{OP}	0		70	°C
Power Supply Voltage	V_{CC}	3.13	3.3	3.47	V
Power Supply Current	I_{CC}	-	150		mA
Power Consumption				0.7	W

Electrical Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Input Logic High		2.3	-	V_{CC}	V
Input Logic Low		-	-	0.8	V
Output Logic High		2.6	-	V_{CC}	V
Output Logic Low		-	-	0.8	V
Transmitter					
Data Rate	DR		10.3125	10.3125	Gb/s
Input Differential Impedance	R_{IN}	-	100	-	Ω
Differential Data Input Swing	V_{INP-P}	-	-	900	mV
Receiver					
Data Rate per channel	DR		10.3125	10.3125	Gb/s
Output Differential Impedance	R_{OUT}	-	100	-	Ω
Differential Data Output Swing	V_{OUTP-P}	-	-	800	mV

Raw Bit Error Ratio	-	-	-	10 ⁻¹²	-
---------------------	---	---	---	-------------------	---

Electrical Connector Layout



Electrical Pin Definition

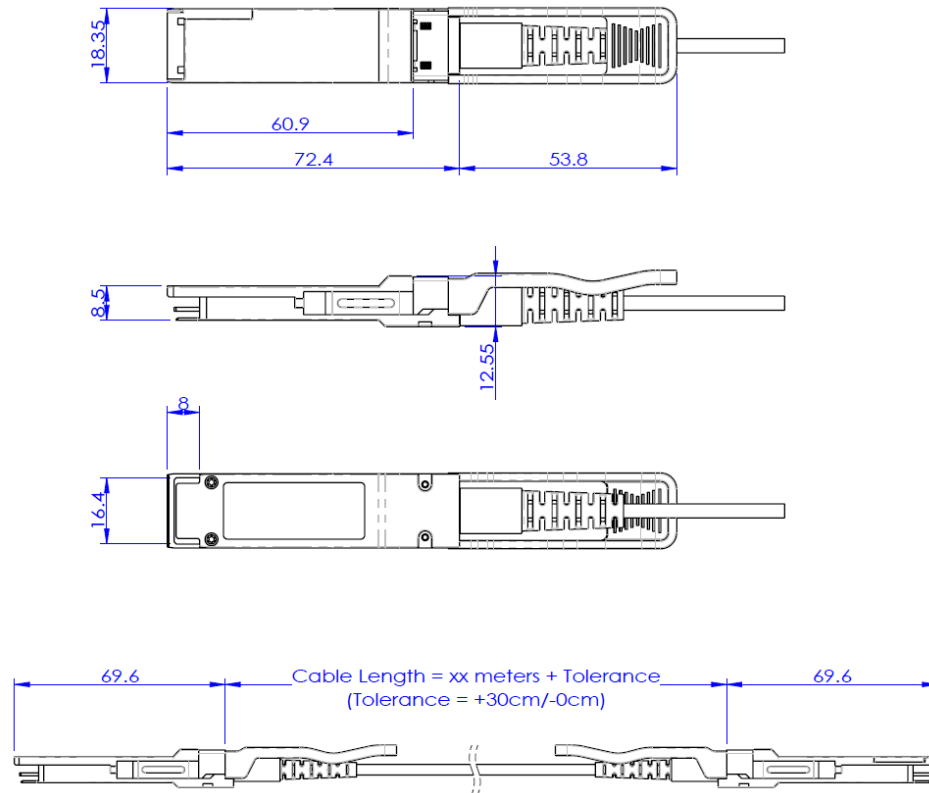
Pin	Name	Description	Note
1	GND	Ground	1
2	Tx2n	Transmitter Inverted Data Input	
3	Tx2p	Transmitter Non-Inverted Data Input	
4	GND	Ground	1
5	Tx4n	Transmitter Inverted Data Input	
6	Tx4p	Transmitter Non-Inverted Data Input	
7	GND	Ground	1
8	ModSel	Module Select	
9	ResetL	Module Reset	
10	Vcc Rx	3.3V 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	ModPr	Module Present	
28	IntL	Interrupt	
29	Vcc Tx	3.3V Power supply transmitter	2
30	Vcc 1	3.3V Power Supply	2
31	LPMoD	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, Orange (Aqua 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-AQ040Cyyy to V40-Q1QyyyC-AA

Contact Information

Vitex LLC
210 Sylvan Ave, Suite 25
Englewood Cliffs, NJ 07632
201-296-0145 | info@vitextech.com