

25G SFP28 AOC

Part Number: V25-S1SyyyC-AA

V25-S1SyyyC-AA is a high performance SFP28 AOC for 25 Gigabit Ethernet data links.

Features

- Up to 28.05 Gbps
- Single 3.3 V power supply
- Low power consumption: < 0.8 W
- Up to 100 m
- Hot pluggable
- RoHS compliant
- Operating case temperature range : 0°C to 70°C



Applications

- 10/25G Ethernet
- 4/8/10/16/32G Fiber Channel
- Proprietary high-speed interconnections

Ordering Information

Part Number	Link Length	Data Rate	Laser	Detector	Fiber Type	Temperature
V25-S1SyyyC-AA	up to 100m	25G	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 **V25-S1SyyyC-AA** is a 25G SFP28 AOC used for 25G 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 _{STG}	-20	70	°C
Maximum Voltage	V _{MAX}	0	4.0	V

Recommended Operating Conditions

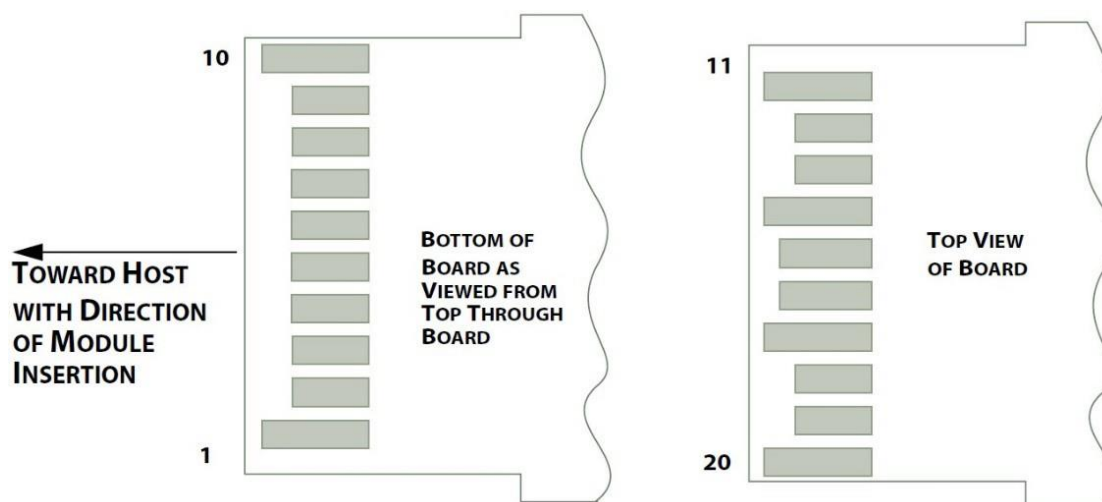
Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	T _{OP}	0	-	70	°C
Power Supply Voltage	V _{CC}	3.13	3.3	3.47	V
Power Supply Current	I _{CC}	-	220	-	mA
Power Consumption		-	-	0.8	W

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
TX Fault Output High	-	2.0	-	V _{CC}	V
TX Fault Output Low	-	-	-	0.8	V
TX Disable Input High	-	2.0	-	V _{CC}	V
TX Disable Input Low	-	-	-	0.8	V
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

RX LOS Output High	-	2.0	-	Vcc	V
RX LOS Output Low	-	0	-	0.8	V
Raw Bit Error Ratio	-	-	-	10 ⁻⁸	-

Electrical Connector Layout



Electrical Pin Definition

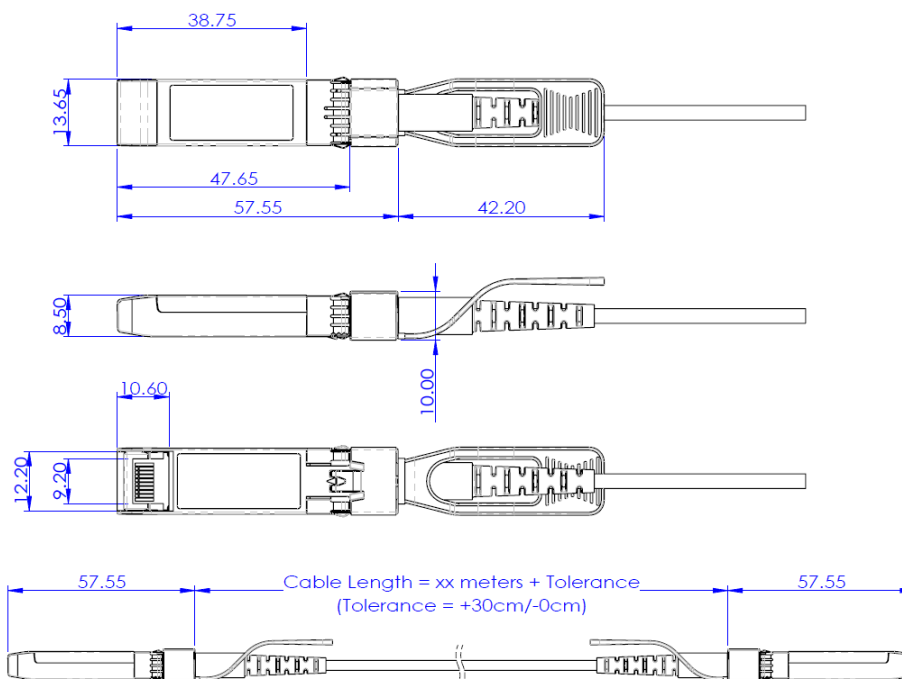
Pin	Name	Description	Note
1	VeeT	Module Transmitter Ground	1
2	Tx_Fault	Module Transmitter Fault	2
3	Tx_Disable	Transmitter Disable; Turns off transmitter laser output	3
4	SDA	2-wire Serial Interface Data Line	4
5	SCL	2-wire Serial Interface Clock	4
6	Mod_ABS	Module Absent, grounded within the module	
7	RS0	Rate Select 0, optionally controls SFP+ module receiver	5
8	Rx_LOS	Receiver Loss of Signal Indication	2
9	RS1	Rate Select 1, optionally controls SFP+ module transmitter	5
10	VeeR	Module Receiver Ground	1
11	VeeR	Module Receiver Ground	1
12	RD-	Receiver Inverted Data Output	
13	RD+	Receiver Non-Inverted Data Output	
14	VeeR	Module Receiver Ground	1
15	VccR	Module Receiver 3.3V Supply	
16	VccT	Module Transmitter 3.3V Supply	
17	VeeT	Module Transmitter Ground	1
18	TD+	Transmitter Non-Inverted Data Input	

19	TD-	Transmitter Inverted Data Input	
20	VeeT	Module Transmitter Ground	1

Note :

1. The module signal ground contacts, VeeR and VeeT, should be isolated from the module case.
2. The TTL level TX Fault is an open collector/drain output, which should be pulled up with a 4.7 – 10k Ω resistor on the host board to VccT. When high, output indicates a laser fault of some kind. Low indicates normal operation. In the low state, the output will be pulled to < 0.8V. When sensing an improper power level in the laser driver, the SFP sets this signal high and turns off the laser. TX-FAULT can be reset with the TX-DISABLE line.
3. TX disable is an input that is used to shut down the transmitter optical output. It is pulled up within the module with a 4.7 – 10k Ω resistor. The states are: Low (0 – 0.8V): Transmitter on / (>0.8, < 2.0V): Undefined / High (>2.0): Transmitter Disabled / Open: Transmitter Disabled. Make TX-DISABLE high (TTL logic “1”) to turn off the laser output. The laser will turn on when TX-DISABLE is
4. low (TTL logic “0”).
5. These are the module definition pins. They should be pulled up with a 4.7 – 10k Ω resistor on the host board to supply less than VccT+0.3V or VccR+0.3V.
6. 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	$\varnothing 2.2 \pm 0.15$	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-AS025Cyyy to V25-S1SyyyC-AA

Contact Information

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