

## 25G SFP28 AOC

### Part Number: LBX-AS025Cyyy

LBX-AS025Cyyy 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
LBX-AS025Cyyy	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 **LBX-AS025Cyyy** 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 <sub>STG</sub>	-20	70	°C
Maximum Voltage	V <sub>MAX</sub>	0	4.0	V

### Recommended Operating Conditions

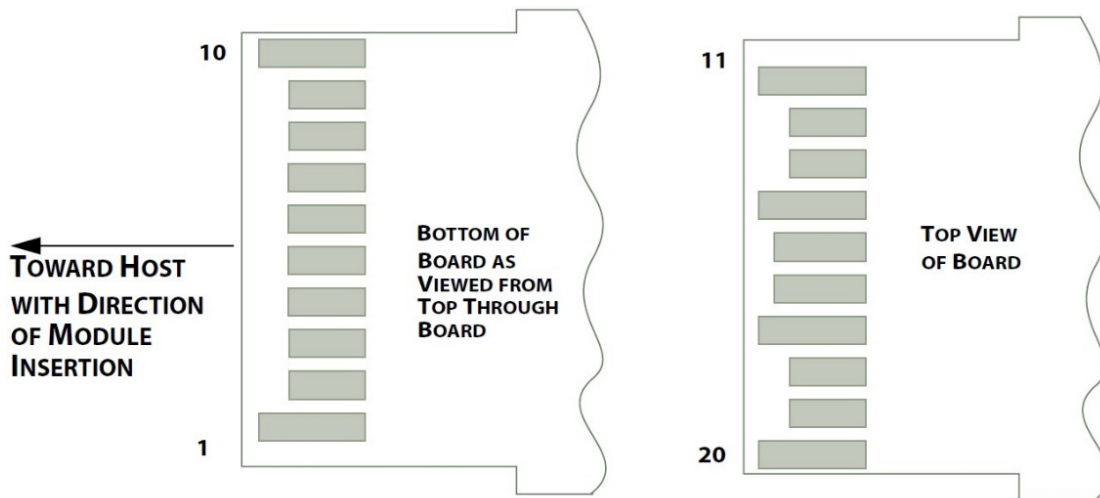
Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	T <sub>OP</sub>	0	-	70	°C
Power Supply Voltage	V <sub>CC</sub>	3.13	3.3	3.47	V
Power Supply Current	I <sub>CC</sub>	-	220	-	mA
Power Consumption		-	-	0.8	W

### Electrical Specifications

Parameter	Symbol	Min	Typical	Max	Unit
<b>Transmitter</b>					
Data Rate	DR	10.00	25.78	28.05	Gb/s
Input Differential Impedance	R <sub>IN</sub>	-	100	-	Ω
Differential Data Input Swing	V <sub>INP-P</sub>	-	-	900	mV
TX Fault Output High	-	2.0	-	V <sub>CC</sub>	V
TX Fault Output Low	-	-	-	0.8	V
TX Disable Input High	-	2.0	-	V <sub>CC</sub>	V
TX Disable Input Low	-	-	-	0.8	V
<b>Receiver</b>					
Data Rate per channel	DR	10.00	25.78	28.05	Gb/s
Output Differential Impedance	R <sub>OUT</sub>	-	100	-	Ω
Differential Data Output Swing	V <sub>OUTP-P</sub>	-	-	800	mV

RX LOS Output High	-	2.0	-	Vcc	V
RX LOS Output Low	-	0	-	0.8	V
Raw Bit Error Ratio	-	-	-	10 <sup>-8</sup>	-

### Electrical Connector Layout



### Electrical Pin Definition

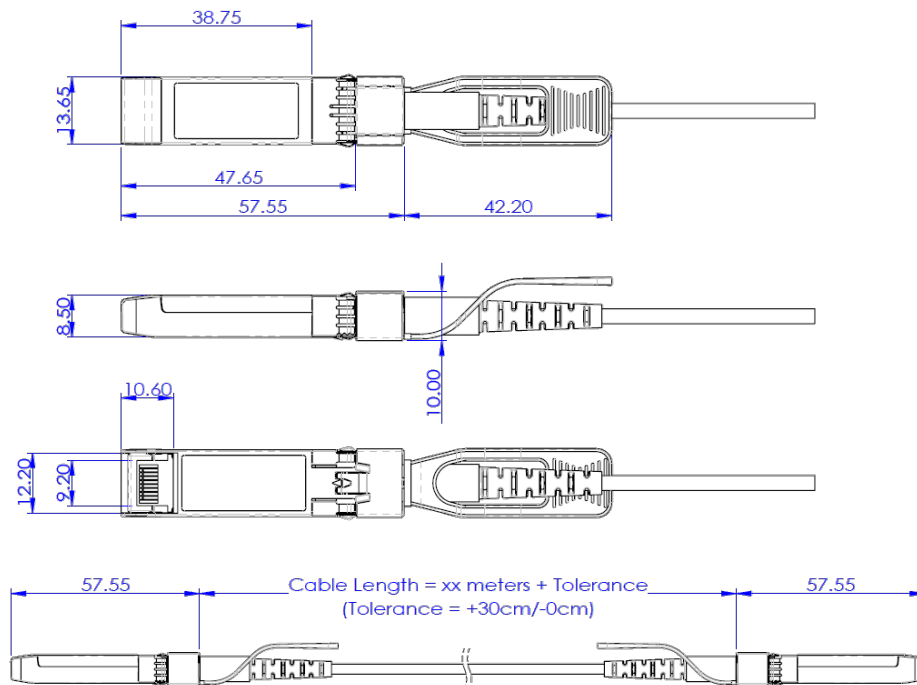
Pin	Name	Description	Note
1	VeeT	Module Transmitter Ground	1
2	Tx_Fault	Module Transmitter Fault	2
3	Tx_Disable	Transmitter Disable; Turns off transmitter laser output	3
4	SDA	2-wire Serial Interface Data Line	4
5	SCL	2-wire Serial Interface Clock	4
6	Mod_ABS	Module Absent, grounded within the module	
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 – 10kΩ 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 – 10kΩ 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 – 10kΩ resistor on the host board to supply less than VccT+0.3V or VccR+0.3V.
- 6.Not used.

### Mechanical Dimensions



ALL DIMENSIONS ARE ±0.2mm 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)		

### Contact Information

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