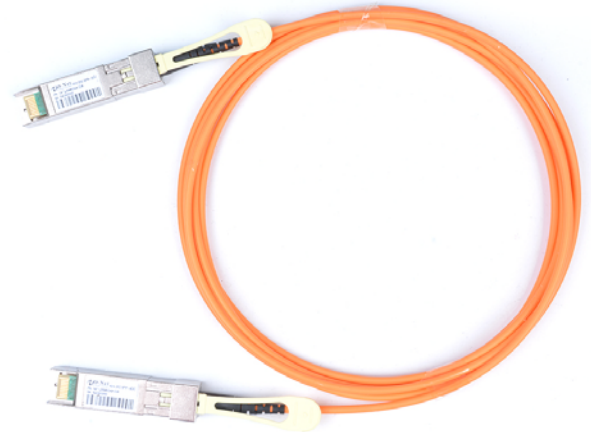


25Gbps SFP28 AOC

Features

- Supports 25Gbps data rate
- Hot pluggable SFP+ form factor
- Internal CDR on transmitter and receiver side
- Operating temperature range: 0°C ~ 70°C
- RoHS-6 compliant



Applications

- 25G BASE-SR4 Ethernet links

Main Specifications

1. Description

O-Net Communication's 25Gbps SFP28 Active Optical Cable (AOC) is a multimode cable assembly with two SFP28 connectors. This product is a single channel module for 25G Ethernet and InfiniBand EDR applications. It is a low-cost, high-performance pluggable interface module for short-range data communication.

2. Recommended Operating Conditions

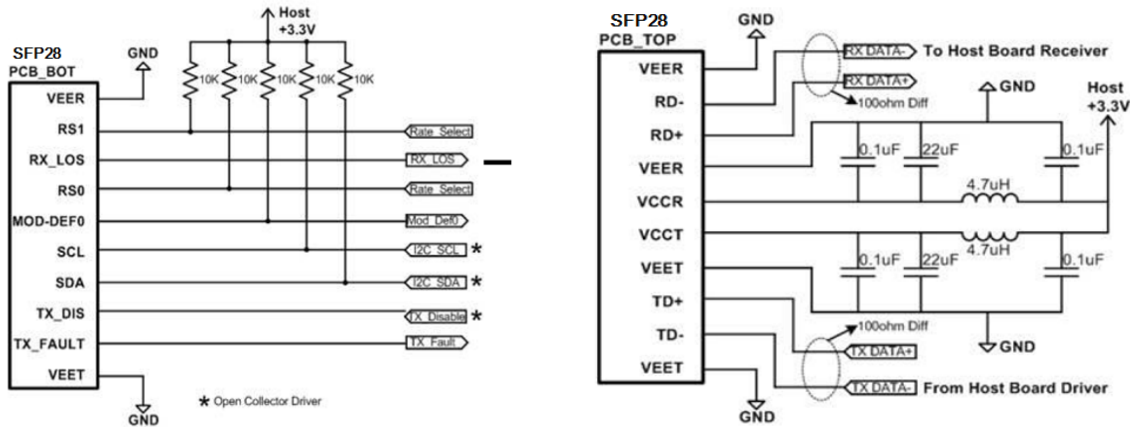
Parameter	Symbol	Max	Min	Typical	Unit
Case Temperature	T_C	70	0		°C
Storage Temperature	T_S	85	-40		°C
Supply Voltage	V_{CC}	3.47	3.13	3.3	V
Signal Rate per Channel				25.78125	GBd
Power Supply Current	I_{CC}	300			mA
Two Wire Serial (TWS) Interface Clock Rate		400			KHz
Receiver Differential Data Output Load				100	Ω
Operating Humidity		%	5	85	
Data Input Voltage-Single Ended	$ V_{DIP}-V_{DIN} $	1			V



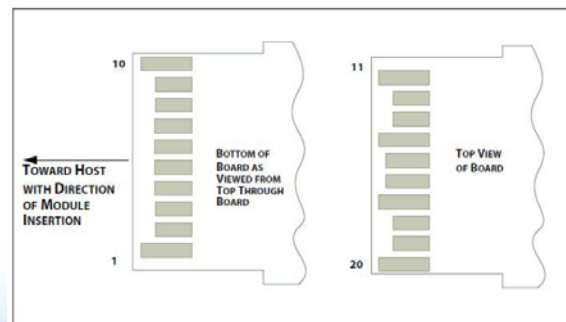
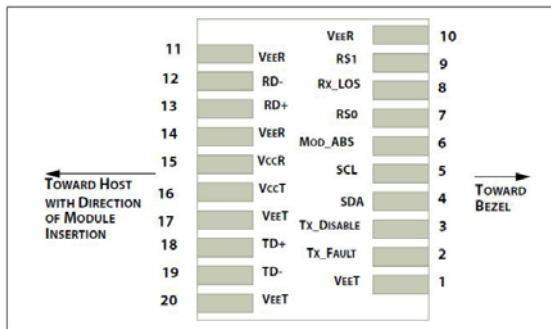
3. Electrical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit
Differential Input Impedance	Z_{in}		100		Ω
Differential Output Impedance	Z_{out}		100		Ω
Data Input Differential Voltage	V_{in_pp}	40		1000	mV
Data Output Differential Voltage	V_{out_pp}	500		1130	mV
Rise and Fall Times	T_r/T_f		10		ps
Bit Error Rate	BER			5E-5	

4. Recommended Power Supply Circuit for the Host Board



5. SFP28 Connector Pin Definition



25Gbps SFP28 AOC

Pin	Symbol	Name/Description	Notes
1	V _{EE} T	Transmitter Ground (Common with Receiver Ground)	1
2	T _{FAULT}	Transmitter Fault	2
3	T _{DIS}	Transmitter Disable. Laser output disabled on high or open.	3
4	SDA	2-wire Serial Interface Data Line (MOD-DEF2)	4
5	SCA	2-wire Serial Clock (MOD-DEF1)	4
6	MOD_ABS	Module Absent, Connected to V _{EE} T or V _{EE} R	4
7	RS0	NA	5
8	LOS	Loss of signal indication. Logic 0 indicates normal operation.	6
9	RSI	NA	5
10	V _{EE} R	Receiver Ground (Common with Transmitter Ground)	1
11	V _{EE} R	Receiver Ground (Common with Transmitter Ground)	1
12	RD-	Receiver Inverted DATA out. AC Coupled.	
13	RD+	Receiver Non-inverted DATA out. AC Coupled.	
14	V _{EE} R	Receiver Ground (Common with Transmitter Ground)	1
15	V _{CC} R	Receiver Power Supply	
16	V _{CC} T	Transmitter Power Supply	
17	V _{EE} T	Transmitter Ground (Common with Receiver Ground)	1
18	TD+	Transmitter Non-inverted DATA in. AC Coupled.	
19	TD-	Transmitter Inverted DATA in. AC Coupled.	
20	V _{EE} T	Transmitter Ground (Common with Receiver Ground)	1

Notes:

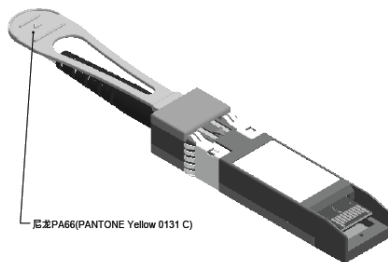
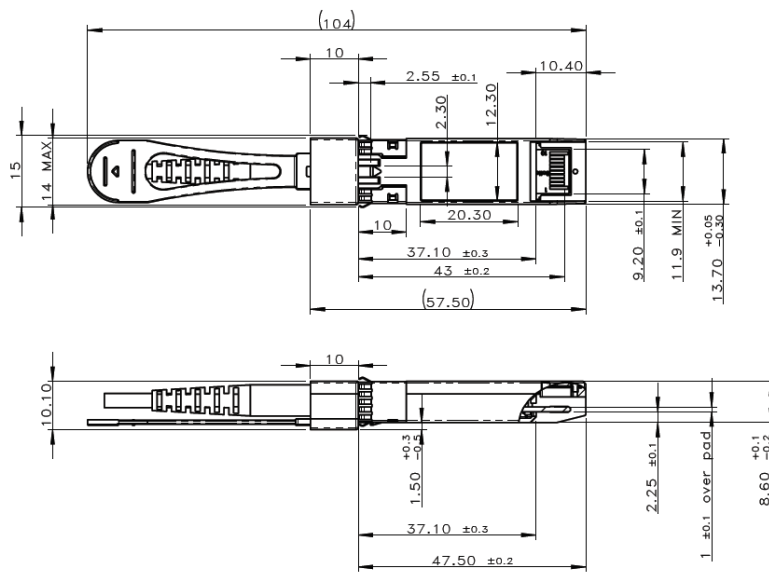
- 1. Circuit ground is internally isolated from chassis ground.
- 2. T_{FAULT} is an open collector/drain output, which should be pulled up with a 4.7k – 10kΩ resistor on the host board if intended for use. Pull-up voltage should be between 2.0 V and V_{CC} + 0.3 V. A high output indicates a transmitter fault caused by either the TX bias current or the TX output power exceeding the preset alarm thresholds. A low output indicates normal operation. In the low state, the output is pulled to <0.8 V.



Notes:

- 3. Laser output disabled on $T_{DIS} > 2.0\text{ V}$ or open, enabled on $T_{DIS} < 0.8\text{ V}$.
- 4. Should be pulled up with $4.7\text{k} - 10\text{k}\Omega$ on host board to a voltage between 2.0 V and 3.6 V . MOD_ABS pulls line low to indicate module is plugged in.
- 5. Rate select can also be set through the 2-wire bus in accordance with SFF-8472 v. 11.0^c. Rx Rate Select is set at Bit 3, Byte 110, Address A2h. Tx Rate Select is set at Bit 3, Byte 118, Address A2h. Note: writing a "1" selects maximum bandwidth operation. Rate select is the logic OR of the input state of Rate Select Pin and 2-wire bus.
- 6. LOS is open collector output. Should be pulled up with $4.7\text{k} - 10\text{k}\Omega$ on host board to a voltage between 2.0 V and 3.6 V . Logic 0 indicates normal operation; logic 1 indicates loss of signal.

Mechanical Dimensions



25Gbps SFP28 AOC



Fiber Length Tolerance

Fiber length ≤ 10 m: Tolerance +0.4 m/-0.2 m

Fiber length > 10 m: Tolerance +5%/-0%

Order Information

- The above specifications represent the typical performance of an O-Net 25Gbps SFP28 AOC.
- Please contact our Sales to discuss your specific requirements.