25G SFP28 AOC (RoHS Compliant)

FEATURES

- Cost Effective 25G SFP28 SR solution
- 1 Channel up to 25.78125Gbps/lane
- Fiber link up to 100 meters
- Hot-Pluggable Interface
- Low latency, low weight, and low power consumption
- Compliant with SFF-8431,8432,8472, IEEE802.3
- EMI performance match FCC class B
- TX_DISABLE supported
- BER better than 1E-12
- Storage, Network, Server, NIC
- Low power AOC solution

OVERVIEW

OPTOWAY is devoted to providing reliable and outstanding active optical cables (AOC) company. OPTOWAY 25G SFP28 AOC is a high- speed solution with cost-effective design which can extend to 100m.

ORDER INFORMATION

AOC – SS VV SP C - LLL G

Speed	Version	FiberCable	Length(m)
25: 25G	01	C: OM3	003: 3
	-		010: 10
			020: 20
			030: 50
			0A0: 100

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1.1. Environmental specifications

Parameter	Min	Max	Units	Note
Operating case temperature	0	70	°C	
Storage temperature	-20	85	°C	
Operating relative Humidity	5	85	%	
Max Supply Voltage	-0.5	3.6	V	

1.2. Operating Specifications

Parameter	Min	Typ	Max	Units	Note
Supply voltage	3.15		3.45	V	
Supply current	140	190	240	mA	Per end
Power consumption	0.45	0.6	0.8	W	Per end @3.3V
Data rate		25.78125		Gbps	
BER		<1E-12		Err/bits	25.78G
Input swing	300		1200	mV	differential
Output swing	300		850	mV	differential

1.3. Active optical cable Electro-Electro Parameters

Conditions

Power Supply VCC:	3.15-3.45V, 3.3V nominal
T case:	0C° to 70°C, 25°C nominal
Datarate:	25.78125 Gbit/s
Test pattern unless otherwise specified	PRBS31

SPECIFICATIONS
ACTIVE OPTICAL CABLE

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	NOTES
FIBRE LENGTH						
50 µm Core Diameter MMF(OM3)		3		100	m	BER < 10 @ 25.78Gbps
TRANSMITTER						
Input swing	Vin	300		1200	mV	Differential Vp-p
Data rate			25.78		Gbit/s	
TX differential Return LOSS	SDD11	-10			dB	0.05 to 3.9G
TX_DIS assert time	t_off			100	uS	
TX_DIS negate time	t_on			2	ms	
RECEIVER						
Data output swing – Single end	Voswing SE	150	250	425	mV	Single-end Vp-p
Data output swing - Differential	Voswing Diff	300	500	850	mV	Differential Vp-p
Data rate		1		25.78125	Gbit/s	
BER			1E-12		Error/ bits	
Eye mask		10			%	Note 2.
Total Jitter (pk-pk)	Tj			0.7	UI	Note 3.
RX_LOSS assert delay	t_los_on			100	uS	
RX differential Return LOSS	SDD11	-10			dB	0.05 to 3.9G
RX_loss negate delay	T_los_off			100	uS	
RX_loss level High		2		Vcc	V	
RX_loss level Low		0		0.8	V	
Module						
Total Power Supply Current	ICC	140	190	240	mA	Note 1.
Instantaneous peak current hot plug				400	mA	
Sustained peak current at hot plug				330	mA	
Time to initialize	t_start			300	ms	

Note 1: Normal power version is Type current 190mA

Note 2: SFF-8431 SFP+ MSA Section 3.6.2, Table 19, Figure 23 mask, at 25°C, 3.3V.

Note 3: SFF-8431 SFP+ MSA Section 3.6.2, Table 19, D5,D12 condition.

1.4. Active optical cable Eye Performance

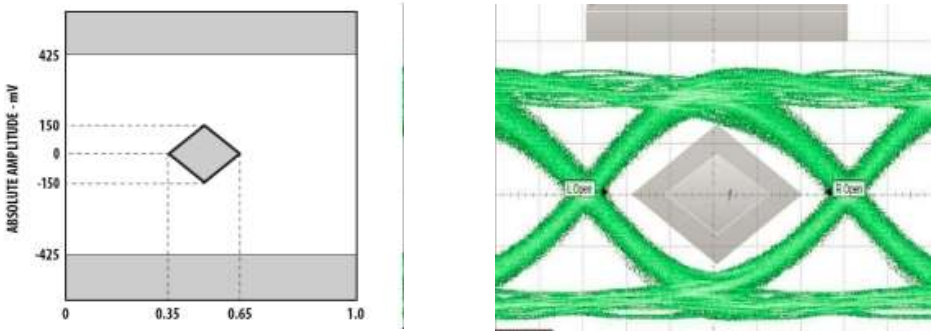

Figure1.5 RX electric eye mask (Differential)

1.5. Contact Description

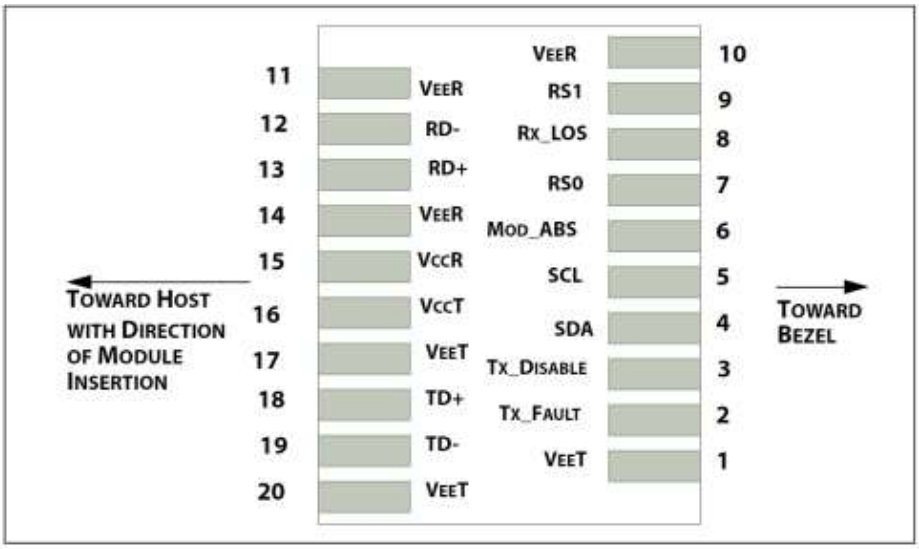

Figure1.6 Host PCB SFP+ pad assignment top view

1.6. Pin Descriptions

Pin	Symbol	Description	Note
1	VeeT	Module Transmitter Ground	
2	Tx-Fault	Module Transmitter Fault	
3	Tx Dis	Transmitter Disable	
4	SDA	2-wire interface Serial Data Line	
5	SCA	2-wire interface Serial Clock Line	
6	Mod-Abs	Module Absent	
7	RS0	Rate Select 0	1
8	LOS	Receiver Loss of Signal	
9	RS1	Rate Select 1	1
10	VeeR	Module Receiver Ground	
11	VeeR	Module Receiver Ground	
12	Rd-	Receiver Inverted Data Output	
13	Rd +	Receiver Non Inverted Data Output	
14	VeeR	Module Receiver Ground	
15	VccR	Module Reveicer 3.3V Supply	
16	VccT	Module Transmitter 3.3V Supply	
17	Veet	Module Transmitter Ground	
18	TD+	Transmitter Non Inverted Data Input	
19	TD-	Transmitter Inverted Data Input	
20	VeeR	Module Transmitter Ground	

Note1 :RS0/1 – CDR support.

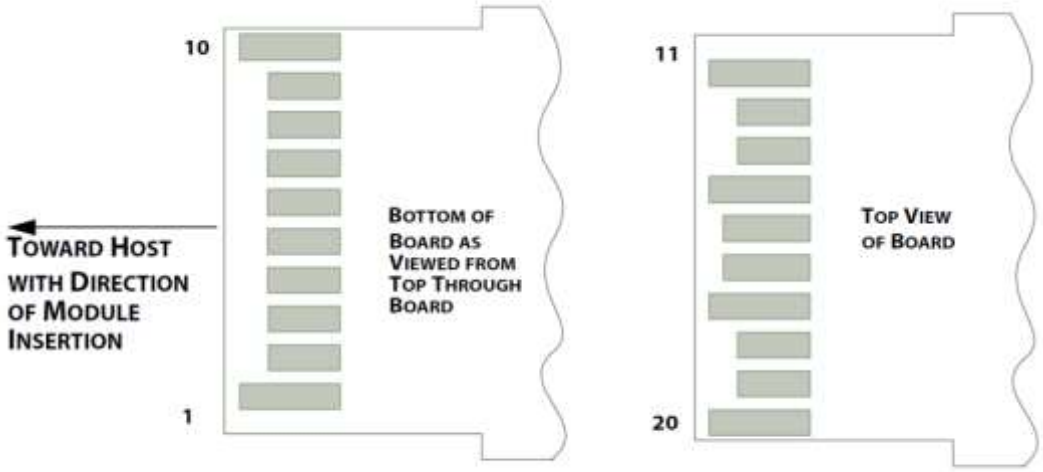

Figure1.7 SFP+ module contact assignment

1.7. 25GSFP28 AOC Mechanical Dimensions