

SFP-10G-AOC-xM

10GBase SFP+ to SFP+
AOC Cable
Up to 100m Reach

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Features

- Supports 10.3125 Gb/s Data Rate
- Up to 100m on OM4 MMF
- Active optical cable
- Hot-pluggable SFP+ form factor
- SFP+ mechanical specification compliant with SFP+ MSA
- Compliant with IEEE 802.3by 10GBASE-SR standard
- Single +3.3V power supply
- Power consumption less than 1 W
- Commercial Operating Case Temperature: 0°C to 70°C
- RoHS compliant



Applications

- 10GBASE-SR
- Data Center

Part number	Product description
SFP-10G-AOC-xM	xm 10GBase SFP2+ to SFP+ AOC x = value for meters (e.g. 7M = 7 meters length)

PIN Description

PIN	Symbol	Name - Description	Notes
1	VEET	Transmitter Ground (Common with Receiver Ground)	
2	TFAULT	Transmitter Fault. Not supported.	1
3	TDIS	Transmitter Disable. Laser output disabled on high or open.	2
4	MOD_DEF(2)	Module Definition 2. Data line for Serial ID.	1
5	MOD_DEF(1)	Module Definition 1. Clock line for Serial ID.	1
6	MOD_DEF(0)	Module Definition 0. Grounded within the module.	1
7	Rate Select	No connection required	
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation.	3
9	VEER	Receiver Ground (Common with Transmitter Ground)	
10	VEER	Receiver Ground (Common with Transmitter Ground)	
11	VEER	Receiver Ground (Common with Transmitter Ground)	
12	RD-	Receiver Inverted DATA out. AC Coupled	4
13	RD+	Receiver Non-inverted DATA out. AC Coupled	4
14	VEER	Receiver Ground (Common with Transmitter Ground)	
15	VCCR	Receiver Power Supply	
16	VCCT	Transmitter Power Supply	
17	VEET	Transmitter Ground (Common with Receiver Ground)	
18	TD+	Transmitter Non-Inverted DATA in. AC Coupled.	5
19	TD-	Transmitter Inverted DATA in. AC Coupled.	5
20	VEET	Transmitter Ground (Common with Receiver Ground)	

Notes:

- Open collector/drain output, which should be pulled up with a 4.7k Ω to 10k Ω resistor on the host board if intended for use. Pull up voltage should be between 2.0V to 3.6V. 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 <0.8V.
- Laser output disabled on Tx_Disable >2.0V or open, enabled on Tx_Disable <0.8V.
- LOS is open collector output. Should be pulled up with 4.7k Ω to 10k Ω on host board to a voltage between 2.0V and 3.6V. Logic 0 indicates normal operation; logic 1 indicates loss of signal.
- RD-/+ : These are the differential receiver outputs. They are internally AC-coupled 100 Ω differential lines which should be terminated with 100 Ω (differential) at the user SERDES.
- TD-/+ : These are the differential transmitter inputs. They are internally AC-coupled, differential lines with 100 Ω differential termination inside the module.



Figure 1. Diagram of host board connector block pin numbers and names

Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Maximum Supply Voltage	Vcc	-0.5	-	+4.0	V	
Storage Temperature	Ts	-40	-	+85	°C	
Relative Humidity	RH	5	-	95	%	1

Notes:

1. Non-condensing.

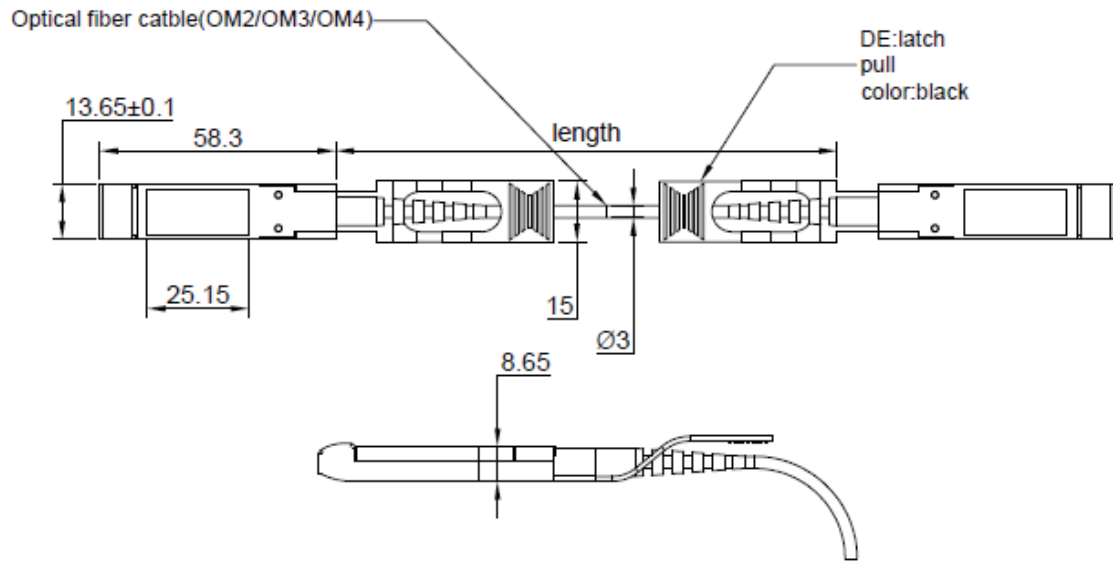
Recommend Operation Conditions

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Data Rate	-	0	10.3125	-	Gb/s	
Power Supply Voltage	Vcc	3.13	3.3	3.47	V	
Power Dissipation	Po	-	-	1.0	W	
Case Operating Temperature (com.)	Top	0	-	+70	°C	

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Transmitter						
Input Differential Impedance	Zin	90	100	110	Ω	
Differential Input Voltage	Vppin	200	-	900	mV	
Receiver						
Output Differential Impedance	Zout	90	100	110	Ω	
Differential Output Voltage	Vppout	200	-	900	mV	

Block Diagram



Revision history

Revision	Date	Author	Description
V1.1	05-03-2020	JGN	Initial Document

Note : Nexgen A/S reserves the right to change this document without notice.