

S10G-AOC

SFP+ Active Optical cable 10G AOC

1. Product overview

GLOBALfiber S10G-AOC is an active optical cable assembly for optical interconnection between compatible host ports.

2. Key features

SFP+; 850 nm VCSEL / PIN; up to 300 m on OM3. Power: <1.0 W per end (feature limit).

3. Applications

10GbE; 1/2/4/8G Fibre Channel; InfiniBand QDR/DDR/SDR; switches, servers and storage.

4. Technical data

Parameter	Specification	Parameter	Specification
Total Power Dissipation	Max: 1; Unit: W	Mechanical Specification	Notes: Mechanical specifications per SFF Committee SFF- 8432 Improved Pluggable Formfactor "IPF" Can be installed in any INF-8074 or SFF-8431/2 compliant Small Form Pluggable (SFP) port
Input Control Voltage- High	Min: 2; Max: Vcc+0.3; Unit: V	Electrical Interface	20; Units: pins; Notes: SFF Committee SFF 8431 Specifications for Enhanced 8.5 and 10 Gigabit Small Form Factor Pluggable Module "SFP+"
Input Control Voltage - Low	Min: -0.3; Max: 0.8; Unit: V	AOC cable length (L <=5m)	Min.: L-0.06; Typ.: L; Max: L+0.06; Units: M
Digital Output Voltage- High	Min: 2; Max: Vcc+0.3	AOC cable length (L > 5m)	Min.: L-(1.1%*L); Typ.: L; Max: L+(1.1%*L); Units: M
Digital Output Voltage- Low	Min: 0; Max: 0.8	Module Retention	Min.: 90; Max: 170; Units: N
Clock Rate-I2C	Max: 400; Unit: kHz	Module Insertion	Min.: 0; Max: 18; Units: N
Module Form Factor	SFP+; Notes: Supports SFF8431/SFF8432/SFF8472	Module Extraction	Min.: 0; Max: 12.5; Units: N
Data rate per lane	From 1 to 10.3125; Units: Gbps; Notes: No retimer or CDR devices embedded in the module. Allows operation at data-rates below 10.3125 Gbps	Cable Pull Strength - Apply Load at 0°	Min.: 44; Units: N
Protocols	1 GbE,10GbE 1/2/4/8 GFC SDR/DDR QDR; Notes: Ethernet, Fibre Channel, InfiniBand, Other Protocols, and Proprietary Data-rates as well	Cable Pull Strength - Apply Load at 90°	Min.: 33; Units: N
Bit Error Rate Performance	1.00E-12	Clearance Out of IO Bezel	Min.: 75; Units: mm
Management Interface	Two-Wire Serial; Notes: Memory Map access Page A0h only per SFF-8472 Revision 11.0	Cable Bending Radius	Min.: 30; Units: mm
Laser Output Power	Class 1; Notes: EN 60825-1 2007, EN 60825-2 A2 2010	Insertion / Removal Cycles	Min.: 50; Units: cycles
Power consumption per end	275; Units: mW; Notes: Nominal Power		

5. Recommended operating conditions

Parameter	Specification
Power consumption	<1.0 W per end (feature limit)
Operating Case Temperature	Min: 0; Typ.: 25; Max: 70; Unit: °C
Ambient Humidity	Min: 5; Max: 85; Unit: %
+3.3V Supply Voltage	Min: 3.135; Typ.: 3.3; Max: 3.465; Unit: V
+3.3V Supply Current	Max: 300; Unit: mA



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6. Optical characteristics

Parameter	Specification
TX Center Wavelength	Min: 840; Typ.: 850; Max: 860; Unit: nm
RMS spectral width	Max: Note 1; Unit: nm
Average Optical Power	Min: -6.5; Max: -1; Unit: dBm; Notes: Note 2
Extinction Ratio	Min: 3.5; Unit: dB; Notes: Note 3
Transmitter Dispersion Penalty	Max: 3.9; Unit: dB
Relative Intensity Noise	Max: -128; Unit: dB/Hz; Notes: 12dB reflection
Optical Return Loss Tolerance	Max: 12; Unit: dB
RX Center Wavelength	Min: 840; Typ.: 850; Max: 860; Unit: nm
Receiver Sensitivity	Max: -11.1; Unit: dBm; Notes: Note 4
Stressed Sensitivity in OMA	Max: -7.5; Unit: dBm; Notes: Note 4
Los function	Min: -30; Max: -12; Unit: dBm
Overload	Max: -1; Unit: dBm; Notes: Note 4
Receiver Reflectance	Max: -12; Unit: dB

7. Digital diagnostics and management

Two-wire interface, 400 kHz maximum; memory page A0h per SFF-8472 revision 11.0. TX_FAULT, TX_DISABLE, RX_LOS and module-absent indication.

8. Safety and regulatory

SFP MSA; SFF-8431/8432/8472; Class 1, EN 60825-1:2007 and EN 60825-2 A2:2010. Use ESD-safe handling and observe the stated cable bend limits.

9. Ordering information

Parameter	Specification
GLOBALfiber product number	S10G-AOC
Product description	SFP+ Active Optical cable 10G AOC
Selectable lengths	1 m, 3 m, 5 m, 10 m, 20 m, 30 m
Available coding	Arista, Cisco, Custom, Extreme, Generic, Huawei, Juniper, NVIDIA-Mellanox(ETH)

Confirm equipment model, port mode and software version when ordering. Coding availability does not guarantee support for every platform or mode.

Cable variants documented in the technical source:

Parameter	Specification
1m, 1.5m, 2m, 2.5m, 3m, 3.5m, 5m, 7m, 10m, 15m, 20m, 25m, 30m	Data Rate: Up to 10.5G; Wire Gauge: SFP+ to SFP+; Connector Type: AOC Cable; Temp. Range: 0-70°C; Cable Jacket: PVC