

AOC-10G-001

10Gbps SFP+ Active Optical Cables

Features

- ◆ Electrical interface compliant to SFF-8431
- ◆ Hot Pluggable
- ◆ 850nm VCSEL transmitter, PIN photo-detector receiver
- ◆ Up to 300m on OM3 MMF
- ◆ Operating case temperature: 0 to 70°C
- ◆ All-metal housing for superior EMI performance



Applications

- ◆ 10 Gigabit Ethernet
- ◆ 4G and 8G Fibre Channel Applications
- ◆ 1x InfiniBand QDR, DDR, SDR
- ◆ High-performance computing clusters
- ◆ Servers, switches, storage and host card adapters

Description

SFP+ Active Optical Cables are direct-attach fiber assemblies with SFP+ connectors. They are suitable for very short distances and offer a cost-effective way to connect within racks and across adjacent racks. SFP+ Active Optical Cables's length is up to 300 meters on OM3 MMF.

Specifications

Parameter	Specifications
Module Form Factor	SFP+ (Supports SFF8431/SFF8432/SFF8472)
Protocols Supported	InfiniBand, Ethernet, Fiber Channel
Channel Data Rate	Rate 1 to 10.3125Gbps
BER	<10 ⁻¹²

Operating Case Temperature	0 to + 70°C
Storage Temperature	-20 to + 85°C
-20 to + 85°C	3.3V
Supply current	230mA per end typical

Optical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Transmitter						
Center Wavelength	λ_t	840	850	860	nm	
RMS spectral width	Pm	-	-	Note 1	nm	
Average Optical Power	Pavg	-6.5	-	-1	dBm	2
Extinction Ratio	ER	3.5	-	-	dB	3
Transmitter Dispersion Penalty	TDP	-	-	3.9	dB	
Relative Intensity Noise	Rin	-	-	-128	dB/Hz	12dB reflection
Optical Return Loss Tolerance		-	-	12	dB	
Receiver						
Center Wavelength	λ_r	840	850	860	nm	
Receiver Sensitivity	Psens	-	-	-11.1	dBm	4
Stressed Sensitivity in OMA		-	-	-7.5	dBm	4
Los function	Los	-30	-	-12	dBm	
Overload	Pin	-	-	-1.0	dBm	4
Receiver Reflectance		-	-	-12	dB	

Note:

- Trade-offs are available between spectral width, center wavelength and minimum OMA, as shown in table 6.
- The optical power is launched into MMF
- Measured with a PRBS 231-1 test pattern @10.3125Gbps
- Measured with a PRBS 231-1 test pattern @10.3125Gbps, BER ≤ 10⁻¹².

Ordering information

Model No.	Product Description
AOC-10G-001	1 meter SFP+ Active Optical Cable
AOC-10G-XXX	10G SFP+ Active Optical Cable up to 300m on OM3 MMF
XXX :001~100, 1~300 Length in meters (OM3 fiber is available)	