


10G SFP+ Active Optical Cables



ProLabs 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. ProLabs SFP+ Active Optical Cables's length is up to 300 meters on OM3 MMF.

Features:

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

Applications:

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

SFP+ AOC Specifications:

Parameter	Description
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
Supply Voltage	3.3V
Supply current	230mA per end typical
Management Interface Serial	I ² C (Supports SFF8472)

Optical characteristics:

The following optical characteristics are defined over the Recommended Operating Environment unless otherwise specified.

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

Note:

- 1. Trade-offs are available between spectral width, center wavelength and minimum OMA, as shown in table 6.
- 2. The optical power is launched into MMF
- 3. Measured with a PRBS $2^{31}-1$ test pattern @10.3125Gbps
- 4. Measured with a PRBS $2^{31}-1$ test pattern @10.3125Gbps, $BER \leq 10^{-12}$.

Ordering information:

Part code	Description
SFP-10G-AOC1M-C	SFP+ Active Optical Cable 1 Metre
SFP-10G-AOC3M-C	SFP+ Active Optical Cable 3 Metre
SFP-10G-AOC5M-C	SFP+ Active Optical Cable 5 Metre
SFP-10G-AOC10M-C	SFP+ Active Optical Cable 10 Metre
SFP-10G-AOC15M-C	SFP+ Active Optical Cable 15 Metre
SFP-10G-AOC20M-C	SFP+ Active Optical Cable 20 Metre
SFP-10G-AOC30M-C	SFP+ Active Optical Cable 30 Metre
SFP-10G-AOC40M-C	SFP+ Active Optical Cable 40 Metre
SFP-10G-AOC50M-C	SFP+ Active Optical Cable 50 Metre
SFP-10G-AOC100M-C	SFP+ Active Optical Cable 100 Metre

Mechanical specification:

