

DisplayPort Optical Cables

✧ Description

SIN YU Technology DisplayPort active optical cables generate high quality digital video signals for connections between DisplayPort source- and sink-devices.

The SIN YU's DisplayPort AOCs are compact hybrid cables comprising multi-mode glass fibers for the TMDS signals and copper wires for the AUX CH signals. They are fully terminated with electro-optical and opto-electrical DisplayPort plug ends and are fully compliant with the DisplayPort specifications.



✧ Features

- Support DisplayPort link length up to 100 m
- Up to 8.1 Gbps/lane, overall 32.4 Gbps data rate
- Support 4K UHD (3840 × 2160) at 120 Hz with 24-bit RGB, a 5K display (5120 × 2880) at 60 Hz with 30-bit RGB, and 8K UHD (7680 × 4320) at 30 Hz with 24-bit RGB
- Without external power
- Support 1 Mbps AUX Channel up to 100 m

✧ Applications

- Digital signage
- Surveillance
- Home theater
- Game console
- Projectors and displays for conference room, auditorium, medical imaging and stadium

✧ Function Description

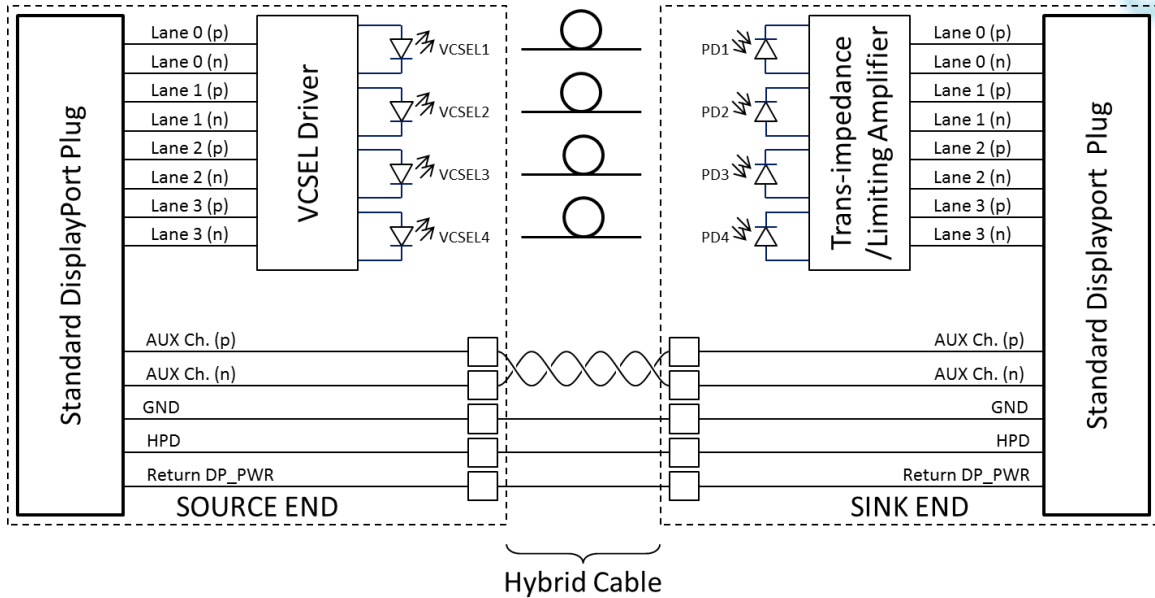


Figure 1. Complete DisplayPort AOC assembly

✧ Optical and Electrical Characteristics

Parameter	Min	Typ	Max	Unit
Optical wavelength		850		nm
Bit Rate (per lane)		8.1		Gbps
Inter-pair skew			0.2	ns
Intra-pair skew			30	ps
Differential input/output impedance	80		120	Ω
Supply voltage		3.3		V
Supply current			350	mA

✧ Hybrid Cable Specifications

Parameter	Specification	Notes
Minimum Cable Bending Radius	10 mm	
Cable Diameter	5.0 mm	
Cable Jacket	PVC	Other types can be available upon request.
Cable Length Tolerance	+30/-0 cm	
Optical fiber	50/125 um OM3	4 channels

✧ Environmental Test

Item	Condition
High Temperature Storage	Non-powered, 70°C, 96 hours
Damp Heat	Non-powered, 85°C, 85%RH, 96 hours
High Temperature Operation	Powered, 60°C, 96 hours

✧ Environment-Related Substances

Substances	Limit
Cd	< 100 ppm
Hg	< 1000 ppm
Cr ⁶⁺	< 1000 ppm
PBDE	< 1000 ppm
PBB	< 1000 ppm
Pb	< 1000 ppm

* Compliant with EU RoHS (2011/65/EU)