

SPECIFICATIONS



TA-CP197 SERIES USB 3.0 AM-BM AOC

Descriptions

USB 3.0 AM to BM Active Optical Cable (AOC) is a USB 3.0 electrical to optical conversion module. This product can translate signals between USB 3.0 electrical and optical signals. AOC is a cabling technology that accepts the same electrical inputs as a traditional copper cable but uses optical fiber "between the connectors. AOC offers a quick solution to supply longer cables for USB 3.0 applications. The USB fiber cable length can be up to 50m with the USB 3.0 version and is also downward compatible with USB 2.0 on the USB Type B Side. Chip technology can realize mutual conversion between USB3.0 and USB2.0 protocols on remote side devices, enabling USB2.0 equipment to share the super speed bandwidth (10Gbps) of USB3.0.

Key Features

- ♦ Meet USB 3.2 Gen2 Standard, bandwidth can reach to 10Gbps super speed;
- ♦ Extends USB 3.0 & USB 2.0 super speed devices up to 50 m.(Custom length is available);
- ♦ Support 5V 900mA max;
- ♦ Support downward compatible with USB2.0, don't support USB1.1;
- ♦ Supports all major operating systems including Windows, Mac OS, and Linux
- ♦ USB Power cable at the device is optional
- ♦ No RF interference, working stable in complex environments;
- ♦ Ideal for a wide variety of USB devices, from printers, scanners, meeting cameras, and other USB B-type devices

Applications

- ♦ Industrial Control
- ♦ Digital Signage
- ♦ Home Network Integration
- ♦ Medical Device Connectivity
- ♦ KVM Extension
- ♦ Remote Desktop USB 3.0 Connections
- ♦ Security: camera, access control
- ♦ USB 3.0 Device Sharing: print, scan, storage

Specifications

Product Name	TA-CP197 Series
Description	USB 3.0 Hybrid Active Optical Cable A Male to B Male downward compatible version
Connector	USB 3.0 Standard-AMale to B male plug
Max. data rate	10Gbps
Range	164ft(50 m) over multimode optical fiber
Optical Transceiver	850 nm VCSEL (multimode)
Cable diameter	4.5 mm
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F).
Humidity	5% to 90% (non-condensing)

Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Supply Voltage	VCC	-0.5	5.5	V
Operating Temperature	Top	0	70	°C
Storage Temperature	Ts	-40	85	°C
Storage Relative Humidity	Hs	10	85	%RH

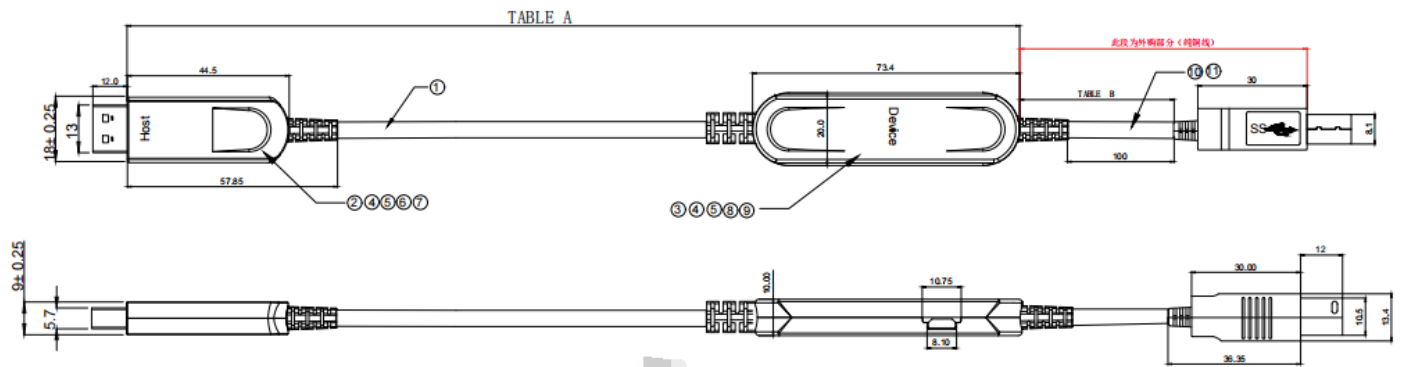
Recommended Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Units
Supply Voltage	VCC	4.75	5	5.25	V
Operating Temperature	Top	0		50	°C

Characteristics

Parameter	Description	Minimum	Typical	Maximum	Units
VCC	Supply Voltage	4.75	5	5.25	V
I _{BUS}	Current at USB Bus Power	49.5	55	60.5	mA
R _{DIFF}	Differential impedance		90		Ω
USB3.0 AOC TX Characteristic					
P _{TX}	Optical TX output power	0			dBm
R _j	Random jitter			3	ps
D _j	Deterministic jitter			60	ps
T _j	Total jitter at a 10-12 BER			100	ps
USB3.0 AOC RX Characteristic					
S _{RX}	RX sensitivity	-7.5			dBm
C _{AC-COUPLING}	AC coupling capacitor on RXOUT	75	100	200	nF

Drawings



Ordering Information

Part Number	Description
TA-CP197A	USB 3.0 AOC AM-BM, Downward compatible with USB 2.0, 10Gbps, Length 10m
TA-CP197B	USB 3.0 AOC AM-BM, Downward compatible with USB 2.0, 10Gbps, Length 15m
TA-CP197C	USB 3.0 AOC AM-BM, Downward compatible with USB 2.0, 10Gbps, Length 20m
TA-CP197D	USB 3.0 AOC AM-BM, Downward compatible with USB 2.0, 10Gbps, Length 30m
TA-CP197E	USB 3.0 AOC AM-BM, Downward compatible with USB 2.0, 10Gbps, Length 50m