Premium Optic USB 3.0 A-A Cables



Descriptions

The USB 3.0 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 uses electrical to optical conversion on the cable ends to improve speed and distance performance of the cable without sacrificing compatibility with standard electrical interface.USB3.0 AOC can extend the transmission distance of USB3.0 transmission to more than 100 meters. AOC offer a quick solution to supply longer cable for USB3.0 application.

USB 3.0 AM-AM AOC

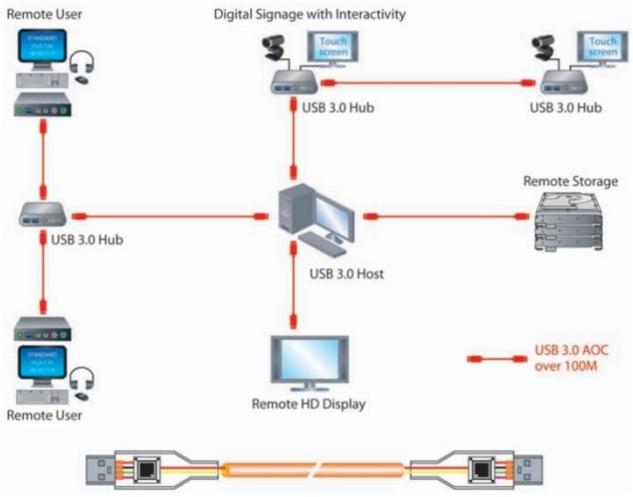
Key Features

- Extends USB 3.0 super speed devices up to 100 m
- Supports all USB 3.0 device types: control, interrupt, bulk and isochronous at up to 5 Gbps
- Operates with USB 3.0 super speed host controllers
- Supports all major operating systems including Windows, Mac OS, and Linux
- Number of devices can be increased using additional hubs
- Power adapter at host is not required
- Remote unit require standard power to USB3.0 AOC port
- Ideal for a wire variety of USB devices, from printer, scanners, hard drives,and audio devices, to touch screens, web cams, and game controllers

Applications

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

Applications Reference



Specifications

Product Name	USB 3.0 AM-AM AOC
Description	USB 3.0 Hybrid Active Optical Cable A Male to A Male
Connector	USB 3.0 Standard-A Male to A Male plug
Max. data rate	5.0Gbps
Range	300 ft(100 m) over multimode optical fiber
Optical Transceiver	850 nm VCSEL (multimode)
Cable diameter	4.0 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

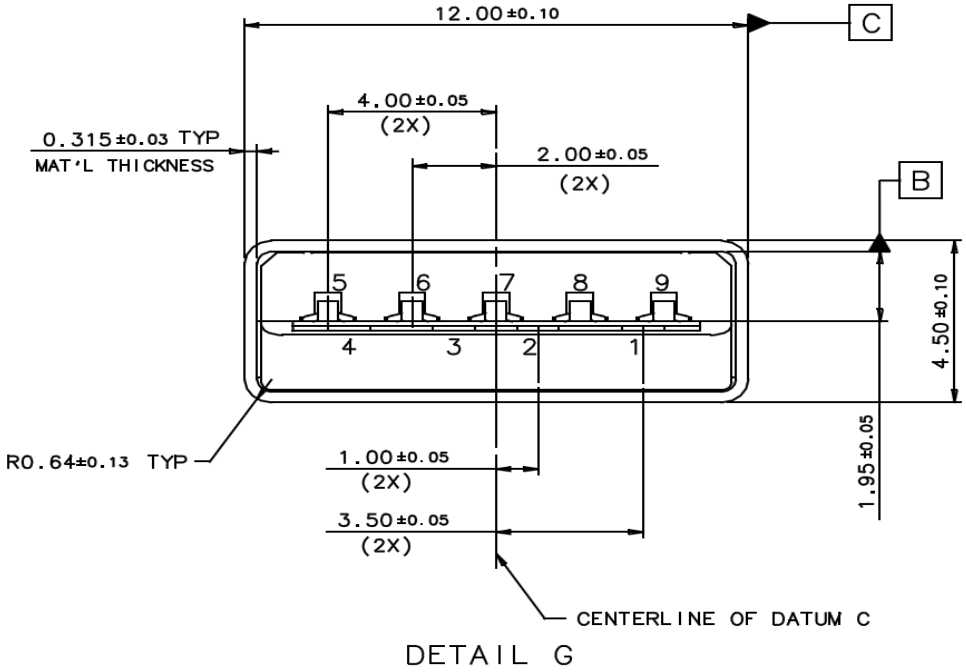
Recommended Operating Conditions

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

USB 3.0 Standard-A Plug Pin Assignment



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USB 3.0 Standard-A Plug Pin Assignment

Pin number	Signal Name	Description
1	VBUS	Power
2	D-	USB 2.0 differential pair
3	D+	
4	GND	Ground for power return
5	SSTX-	SuperSpeed transmitter differential pair
6	SSTX+	
7	GND	Ground for signal return
8	SSRX-	SuperSpeed receiver differential pair
9	SSRX+	
Shell	Shield	Shield

Drawings

