

200Gb/s HDR QSFP56 Active Optical Cable

Features

- Compatible with IEEE 802.3bj and IEEE 802.3cd
- Supports IBTA InfiniBand HDR
- Up to 200Gb/s data rate
- 4x 50Gb/s PAM4 modulation
- Programmable Rx output amplitude and pre-emphasis
- SFF-8665 compliant QSFP56 port
- Single 3.3V power supply
- 4.35W power dissipation each end, with re-timing
- Bit Error Rate (BER) 1 E-15 with InfiniBand systems
- Up to 100m length
- Operating case temp Commercial: 0°C to +70 °C
- Hot pluggable
- RoHS compliant
- SFF-8636 compliant I2C management interfac

Description

Q56-200G-AOCH is a QSFP56 VCSEL-based (Vertical Cavity Surface-Emitting Laser) active optical cable (AOC) designed for use in 200Gb/s InfiniBand HDR systems. The 200G AOC offers high port density and configurability, and a much longer reach than passive copper cables in the data centers. Since the AOC is hot pluggable, it is easy to install and replace.

Q56-200G-AOCH has a standard SFF-8665 compliant QSFP56 port on the electrical side towards the host system. It contains four multi-mode fibers (MMF) optic transceivers per end; each operating at data rates of up to 50Gb/s. Q56-200G-AOCH offers selectable retiming per lane for both its optical transmitters and receivers up to 50Gbp/s rates.

Recommended Operating Conditions

Table1-Absolute Maximum Ratings

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Supply Voltage	V _{CC3}	-0.5	-	+3.6	V	
Storage Temperature	T _s	-40	-	+85	°C	
Operating Humidity	RH	+5	-	+85	%	1
Data input voltage	V _{CC}	-0.3		4.0	V	

Note:

[1] No condensation

Recommended Operating Conditions

Table2-Recommended Operating Conditions

Parameter	Min.	Typical	Max.	Unit	Note
Operating Case Temperature	0	-	+70	° C	
Power Supply Voltage	3.14	3.3	3.47	V	
Power Dissipation	4.35	-	4.55	W	1
Supply noise tolerance (10Hz-10MHz)	66	-	-	mVpp	
Operating relative humidity	5	-	85	%	

Note:

[1] Per termina

Mechanical

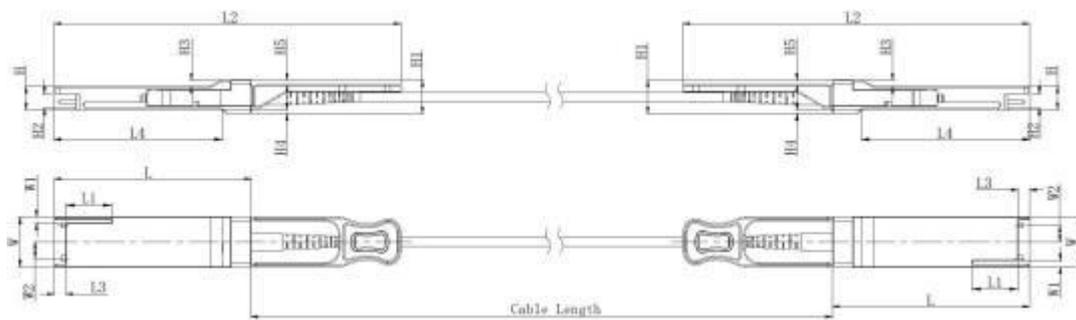


Figure 1 Mechanical Diagram

Unit mm

	L	L1	L2	L3	L4	W	W1	W2	H	H1	H2	H3	H4	H5
Max	72.2	-	128	4.35	61.4	18.45	-	6.2	8.6	12.4	5.35	2.5	1.6	2.0
Type	72.0	-	-	4.20	61.2	18.35	-	-	8.5	12.2	5.2	2.3	1.5	1.8
Min	68.8	16.5	124	4.05	61.0	18.25	2.2	5.8	8.4	12.0	5.05	2.1	1.3	1.6

Table3-Regulatory Compliance

Parameter	Value	Units
Diameter	3±0.2	mm
Minimum bend radius	30	mm
Length tolerance	1 m ≤ length < 5 m:	+300 / -0
	5 m ≤ length < 50 m:	+500 / -0
	Length ≥ 50 m	+1000/ -0
Cable color	Aqua	

Part Numbers and Descriptions

Table4-Part Numbers and Descriptions

Part Number	Description
Q56-200G-A3H	Active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 3m
Q56-200G-A5H	Active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 5m
Q56-200G-A10H	Active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 10m
Q56-200G-A15H	Active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 15m
Q56-200G-A20H	Active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 20m
Q56-200G-A30H	Active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 30m
Q56-200G-A50H	Active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 50m
Q56-200G-A100H	Active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 100m

Warnings

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.