100Gb/s QSFP28 EDR Active Optical Cable

Features

- Up to 100Gb/s data rate
- 4x 25G NRZ
- 2.2W power dissipation (typ, each end, with retiming)
- Programmable Rx output amplitude and pre-emphasis
- Programmable Tx input equalizer
- Selectable retiming
- SFF-8665 compliant QSFP28 port
- Single 3.3V power supply
- BER 1E-15 with InfiniBand systems
- Up to 100m length
- Hot pluggable
- RoHS compliant
- SFF-8636 compliant I2C management interface

Description

QSFP-100G-AOCH cables are QSFP28 VCSEL-based (Vertical Cavity Surface-Emitting Laser) active optical cables designed for use in InfiniBand 100Gb/s EDR systems. 100G EDR AOCs are the most popular interconnect used in very high-speed InfiniBand High Performance Computing (HPC) environments as they offer predictable latency, very low power (2.2W) and enable increased air flow, tighter bend radii and significantly longer reach compared to DAC cables. Since the AOC is hot pluggable, it is easy to install and replace.

The active optical cables have a standard SFF-8665 compliant QSFP28 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 26Gb/s.

The QSFP-100G-AOCH offers selectable retiming per lane for both its optical transmitters and receivers for the 25-26Gbp/s rates, but the AOC also supports lower bit rates without retiming. The transmitters have programmable input equalizers and input squelch function, while the receivers have programmable output amplitude and pre-emphasis.

The unique, quality, active, fiber, cable solutions provide power-efficient connectivity for data center interconnects. They enable higher port bandwidth, density and configurability at a low cost and reduced power requirement in the data centers. Rigorous production testing ensures the best out-of- the-box installation experience, performance and durability.

Absolute Maximum Ratings

Table1-Absolute Maximum Ratings

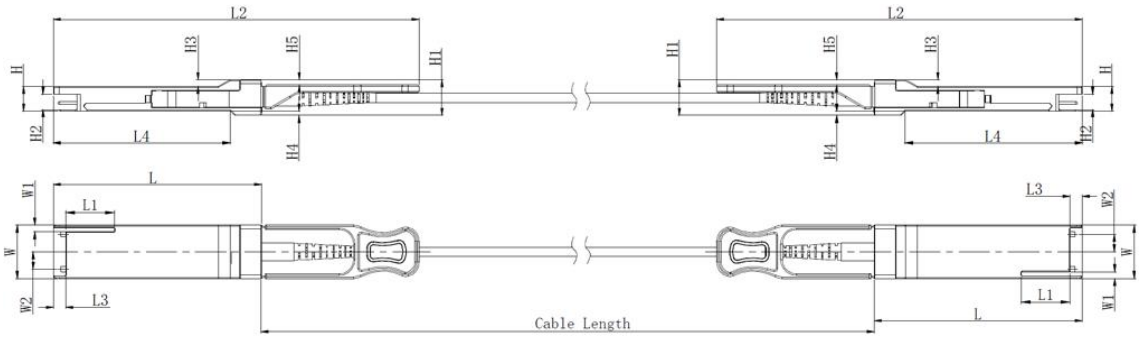
Parameter	Min.	Max.	Units
Supply voltage	-0.3	3.6	V
Data input voltage	-0.3	3.465	V
Control input voltage	-0.3	4.0	V
Damage threshold	3.4		dBm

Operational Specifications

Table2-Operational Specifications

Parameter	Min.	Typical	Max.	Units
Supply voltage (Vcc)	3.135	3.3	3.465	V
Power dissipation (each end, no retiming)		1.5	1.8	W
Power dissipation (each end, retiming on all lanes)		2.2	2.5	W
Supply noise tolerance (10Hz-10MHz)	66			mVpp
Operating case temperature	0		70	°C
Operating relative humidity	5		85	%

Mechanical Schematics



Part Numbers and Descriptions

Table3-Part Numbers and Descriptions

Part Number	Description
QSFP-100G-A1H	Active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1m
QSFP-100G-A1-5H	Active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1.5m
QSFP-100G-A2H	Active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 2m
QSFP-100G-A3H	Active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 3m
QSFP-100G-A4H	Active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 4m
QSFP-100G-A5H	Active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 5m
QSFP-100G-A10H	Active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 10m
QSFP-100G-A15H	Active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 15m
QSFP-100G-A20H	Active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 20m
QSFP-100G-A30H	Active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 30m
QSFP-100G-A50H	Active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 50m
QSFP-100G-A100H	Active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 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.

Further Information:

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Disclaimer

1. We are committed to continuous product improvement and feature upgrades, and the contents contained in this manual are subject to change without notice.

2. Nothing herein should be construed as constituting an additional warranty.

3. NADDOD assumes no responsibility for the use or reliability of equipment or software not provided by NADDOD.