

Rev	Date	Modified by	Description
A0	2023		

Product Specifications

200G QSFP56 to 2xQSFP56 Active Optical Cable

PN: EQ5A20X-32Q5CDxx

Features

- Active optical cable with breakout from QSFP56 200G to two QSFP56 100G
- Up to 53.125Gbps data rate per channel PAM4 modulation
- Integrated 850nm VCSEL array and PD array
- DDM function implemented
- Hot-pluggable
- Low power dissipation: : <4W on 200G end, <3W on 100G end
- Commercial operating case temperature range: 0°C to 70 °C
- Compliant with ROHS2.0

Applications

- Data centers and Cloud Networks
- 200G InfiniBand HDR systems

Standards

- IEEE 802.3cd
- InfiniBand 4xHDR
- SFF 8679
- CMIS4.0 or SFF8636

Absolute Maximum Ratings

Product	Electrical mode	Protocol	Nominal Rate			Specifications		Link
			Aggregate(Gbps)	Electrical Lane(s)(Gbaud)	ppm	High Speed Electrical	Pre-FEC Max BER	
200G end	4X50	IEEE802.3cd	212.5	26.5625 PAM4	±100	200GAUI-4	1E-6 for Infini Band HDR; 2.4E-4 for 200GBASE-SR4 0.5~100m	
Per 100G end	2X50	IEEE802.3cd	106.25	26.5625 PAM4	±100	200GAUI-4		

Parameter	Symbol	Unit	Min	Max
Case Operating Temperature	Top	°C	0	70
Storage Temperature Range	Ts	°C	-40	85
Relative Humidity	RH	%	0	85
Power Supply Voltage	Vcc	V	-0.5	3.6

Recommended Operating Conditions

Parameter	Symbol	Unit	Min	Typ	Max
Operating Case Temperature Range	Tca	°C	0	/	70
Power Supply Voltage	Vcc	V	3.135	3.3	3.465

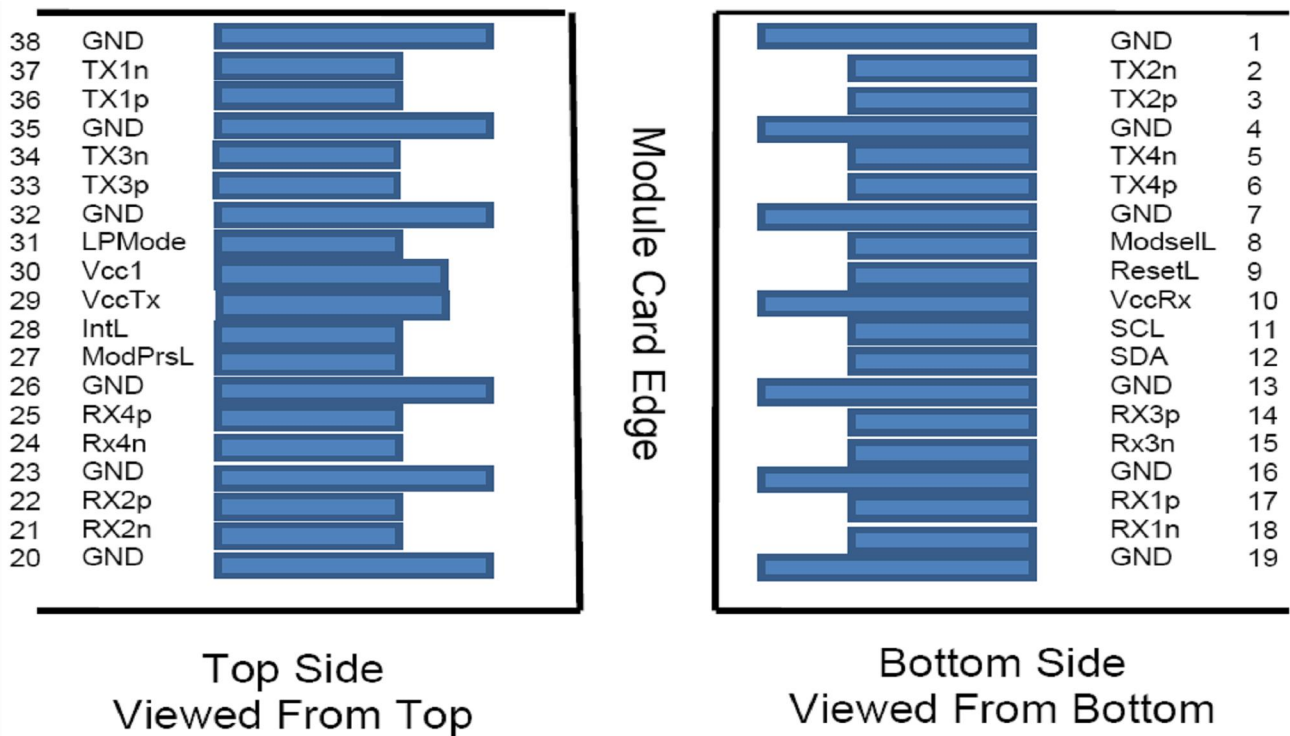
Electric Ports Definition

Parameter	Symbol	Unit	Min	Typ	Max	Notes
Supply Voltage	VCC	V	3.135	3.3	3.465	
Power Consumption	Pc	W			4	200G end
					3	100G end
Transmitter						
Input Differential Impedance	RIN	Ω	80	100	120	

Single Ended Data Input Swing	VIN	mVp-p	90		500	
Transmit Disable Voltage	VDIS	V	2		VCCHOST	
Transmit Enable Voltage	VEN	V	VEE		VEE+0.8	
Transmit Fault Assert Voltage	VFA	V	2		VCCHOST	
Transmit Fault De-Assert Voltage	VFDA	V	VEE		VEE+0.8	
Receiver						
Single Ended Data Output Swing	VOD	mVp-p	200		500	
LOS Fault	VLOSFT	V	2		VCCHOST	
LOS Normal	VLOSNR	V	VEE		VEE+0.8	
Differential termination mismatch		%			10	
IIC communication						
IIC Clock frequency	-	KHZ	/	100	400	
clock stretching	-	us	/	/	500	

Pin Description

The electrical interface to the transceiver is a 38 pins edge connector. The 38 pins provide high speed data, low speed monitoring and control signals, I2C communication, power and ground connectivity. The top and bottom views of the connector are provided below, as well as a table outlining the contact numbering, symbol and full description.



Pin	Symbol	Name/Description
1	GND	Ground
2	Tx2n	Channel 2 Transmitter Inverted Data Input
3	Tx2p	Channel 2 Transmitter Non-Inverted Data Input
4	GND	Ground
5	Tx4n	Channel 4 Transmitter Inverted Data Input
6	Tx4p	Channel 4 Transmitter Non-Inverted Data Input
7	GND	Ground
8	ModSelL	Module Select
9	ResetL	Module Reset
10	Vcc Rx	+3.3 V Power supply receiver
11	SCL	2-wire serial interface clock
12	SDA	2-wire serial interface data
13	GND	Ground
14	Rx3p	Channel 3 Receiver Non-Inverted Data Output
15	Rx3n	Channel 3 Receiver Inverted Data Output
16	GND	Ground
17	Rx1p	Channel 1 Receiver Non-Inverted Data Output
18	Rx1n	Channel 1 Receiver Inverted Data Output
19	GND	Ground
20	GND	Ground
21	Rx2n	Channel 2 Receiver Inverted Data Output
22	Rx2p	Channel 2 Receiver Non-Inverted Data Output
23	GND	Ground
24	Rx4n	Channel 4 Receiver Inverted Data Output
25	Rx4p	Channel 4 Receiver Non-Inverted Data Output
26	GND	Ground
27	ModPrsL	Module Present
28	IntL	Interrupt
29	Vcc Tx	+3.3 V Power supply transmitter

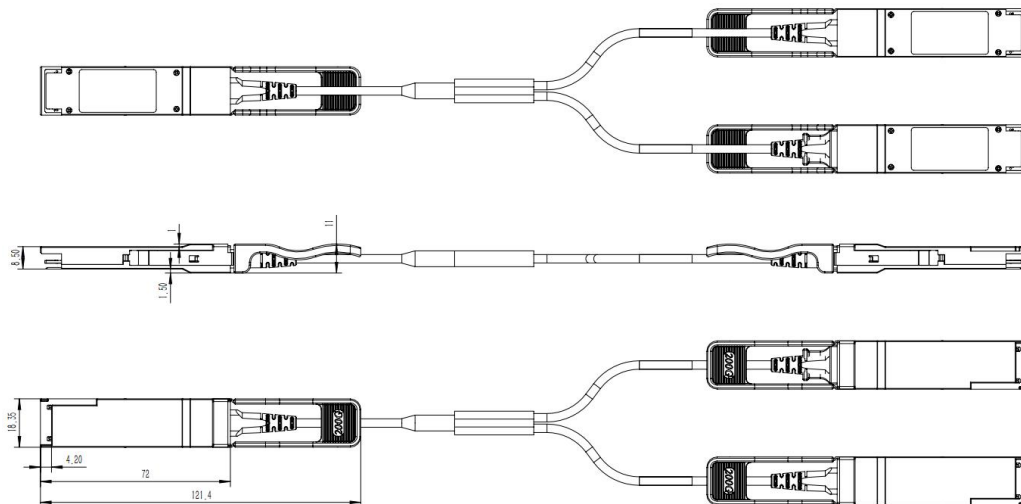
30	Vcc1	+3.3 V Power Supply
31	LPMODE	Low Power Mode
32	GND	Ground
33	Tx3p	Channel 3 Transmitter Non-Inverted Data Input
34	Tx3n	Channel 3 Transmitter Inverted Data Input
35	GND	Ground
36	Tx1p	Channel 1 Transmitter Non-Inverted Data Input
37	Tx1n	Channel 1 Transmitter Inverted Data Input
38	GND	Ground

Module Memory Map

Compatible with CMIS rev 4.0/ SFF8636

Package Outline

The mechanical specifications are based on QSFP56 transceiver module specification, substituting the optical connectors with a cable connecting three ends.

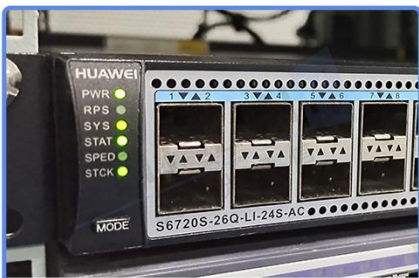


Total Length (m)	Breakout * 2*100G (m)
1	0.5
2	0.5
3	1
5	2
7	3
X (X≥10)	3

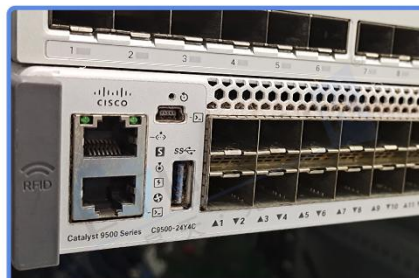
Compatibility Test

In order to ensure the product compatibility, our products will be tested on the switch before shipment. Our modules can compatible with many mainstream brand switches, such as Cisco, Juniper, Extreme, Brocade, IBM, H3C, HP, Huawei, D-Link, Mikrotik, ZTE, TP-Link...

Our test equipment: VOLKTEK MEN-4110, HP 2530-8G, CRS226-24G-25+RM, Catalyst 2960G Series, Catalyst 3850 XS 10G SFP+, Catalyst 3750-E Series, HUAWEI S5700Series, H3C S3100V2 Series, Juniper-EX4200, etc.



HUAWEI S6720S



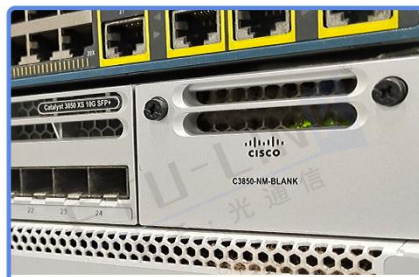
CISCO Catalyst 9500



DELL S5048F



H3C S3100V2



CISCO C3850



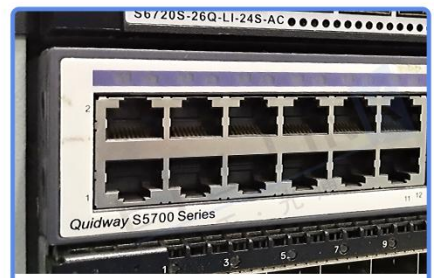
Aruba 2930F



Juniper EX 4200



HP J9264A

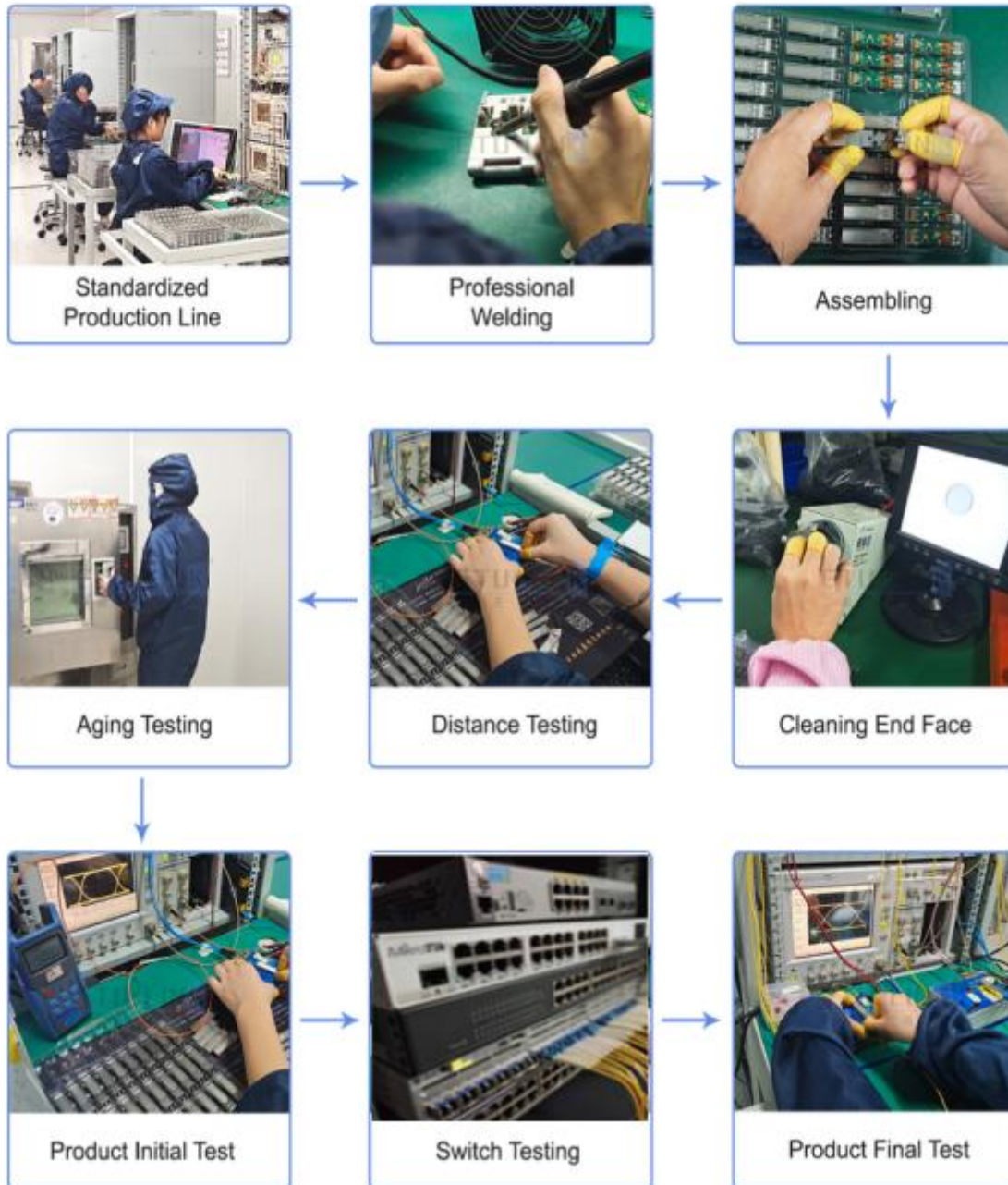


Quidway S5700

Product Production Process

Quality Assurance

Continuous introduction of new equipment,
produced by strict standards, strict quality inspection,
to guarantee the high quality standard of each product.



Packaging

ETU-Link provides two kinds of packaging, 10pcs/Tray and individual package.



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