

200G QSFP56 Active Optical Cable

Features

- Up to 200Gb/s data rate
- 4x 50Gb/s PAM4 modulation
- SFF-8665 compliant QSFP56 port
- SFF-8636 compliant I²C management
- Single 3.3V power supply
- 4.5W power dissipation each end, with retiming
- Operating case temp Commercial: 0°C to +70 °C
- Hot pluggable
- RoHS compliant

Applications

- Other optical links

Absolute Maximum Ratings

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Storage Temperature	TSTG	-5	-	+75	°C	
Relative Humidity (non-condensation)	RH	5	-	85	%	
Power Supply Voltage	VCC	-0.5	-	+3.6	V	

Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Case temperature	Tc	0	-	+70	°C	
3.3V Supply Voltage	VCC	3.135	3.3	3.465	V	
Standard Cable Lengths		1		100	m	

Electrical Characteristic

Tested under recommended operating conditions, unless otherwise noted

Parameter	Symbol	Unit	Min	Typical	Max	Notes
Transmitter						
Signaling rate (each lane)	SR	GBd	26.5625 ± 100 ppm			
Differential data input voltage per lane	V _{in,pp,diff}	mV	900			
Differential termination mismatch		%			10	
Single-ended voltage tolerance range		V	-0.4		3.3	
DC common mode voltage		mV	-350		2850	
Receiver						
Signaling rate (each lane)	SR	GBD	26.5625 ± 100 ppm			
Differential output voltage		mV			900	
Differential termination mismatch		%			10	
Transition time (min, 20% to 80%)		ps	9.5			
DC common mode voltage		mv	-350		2850	
Error Bit Rate	BER				2.4E-4	PRBS31Q@26.5625Gbd PAM4

Recommended Interface Circuit

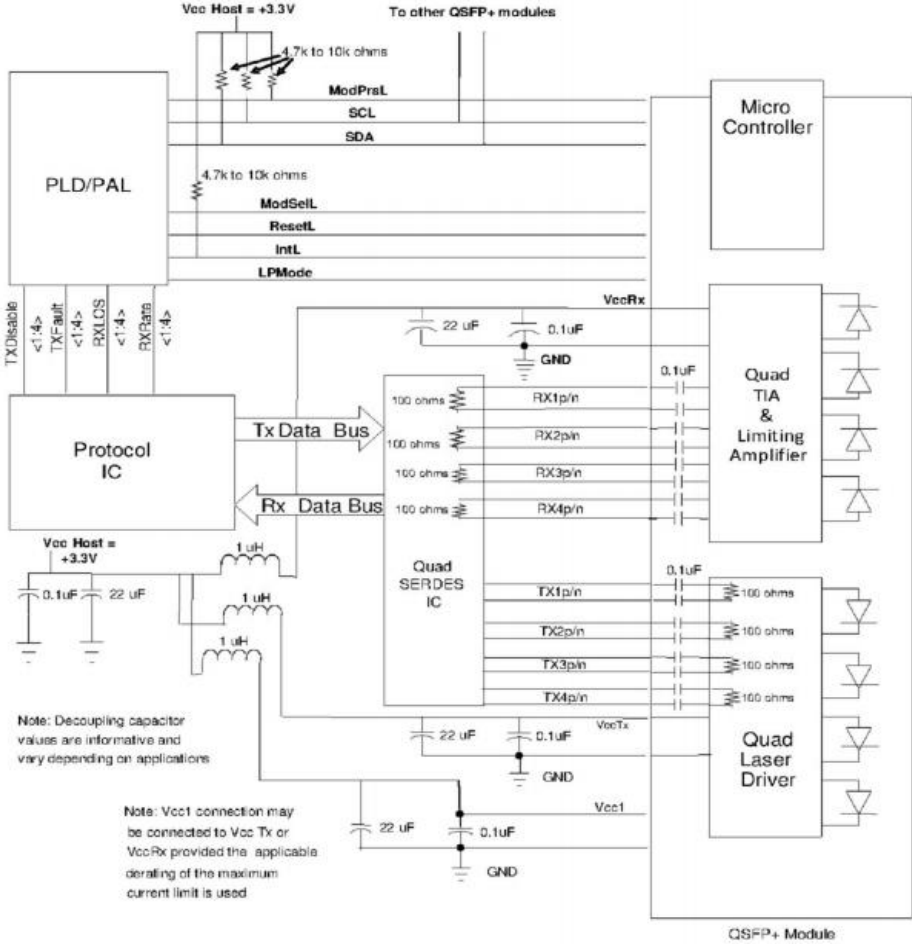


Figure1 Recommended Interface Circuit

Pin Description

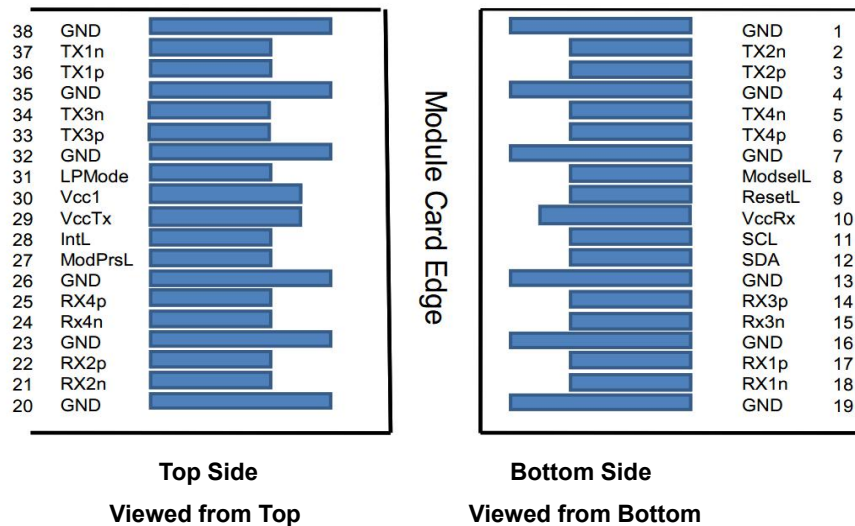


Figure2 Pin view

Table4-Pin Function Definitions				
Pin	Logic	Symbol	Name/Description	Note
1	G	GND	Ground	1
2	S	Tx2n	Transmitter Inverted Data Input	
3	S	Tx2p	Transmitter Non-Inverted Data Input	
4	G	GND	Ground	1
5	S	Tx4n	Transmitter Inverted Data Input	
6	S	Tx4p	Transmitter Non-Inverted Data Input	
7	G	GND	Ground	1
8	IO	ModSelL	Module Select	
9	IO	ResetL	Module Reset	
10	Power	Vcc Rx	+3.3V Power Supply Receiver	
11	IO	SCL	2-wire serial interface clock	
12	IO	SDA	2-wire serial interface data	
13	G	GND	Ground	1
14	S	Rx3p	Receiver Non-Inverted Data Output	
15	S	Rx3n	Receiver Inverted Data Output	
16	G	GND	Ground	1
17	S	Rx1p	Receiver Non-Inverted Data Output	
18	S	Rx1n	Receiver Inverted Data Output	
19	G	GND	Ground	1
20	G	GND	Ground	1
21	S	Rx2n	Receiver Inverted Data Output	
22	S	Rx2p	Receiver Non-Inverted Data Output	
23	G	GND	Ground	1

24	S	Rx4n	Receiver Inverted Data Output	
25	S	Rx4p	Receiver Non-Inverted Data Output	
26	G	GND	Ground	1
27	IO	ModPrsL	Module Present	
28	IO	IntL	Interrupt	
29	Power	VccTx	+3.3V Power supply transmitter	
30	Power	Vcc1	+3.3V Power supply	
31	IO	LPMODE	Low Power Mode	
32	G	GND	Ground	1
33	S	Tx3p	Transmitter Non-Inverted Data Input	
34	S	Tx3n	Transmitter Inverted Data Input	
35	G	GND	Ground	1
36	S	Tx1p	Transmitter Non-Inverted Data Input	
37	S	Tx1n	Transmitter Inverted Data Input	
38	G	GND	Ground	1

Notes:

[1] Circuit ground is internally isolated from chassis ground.

Monitoring Specification

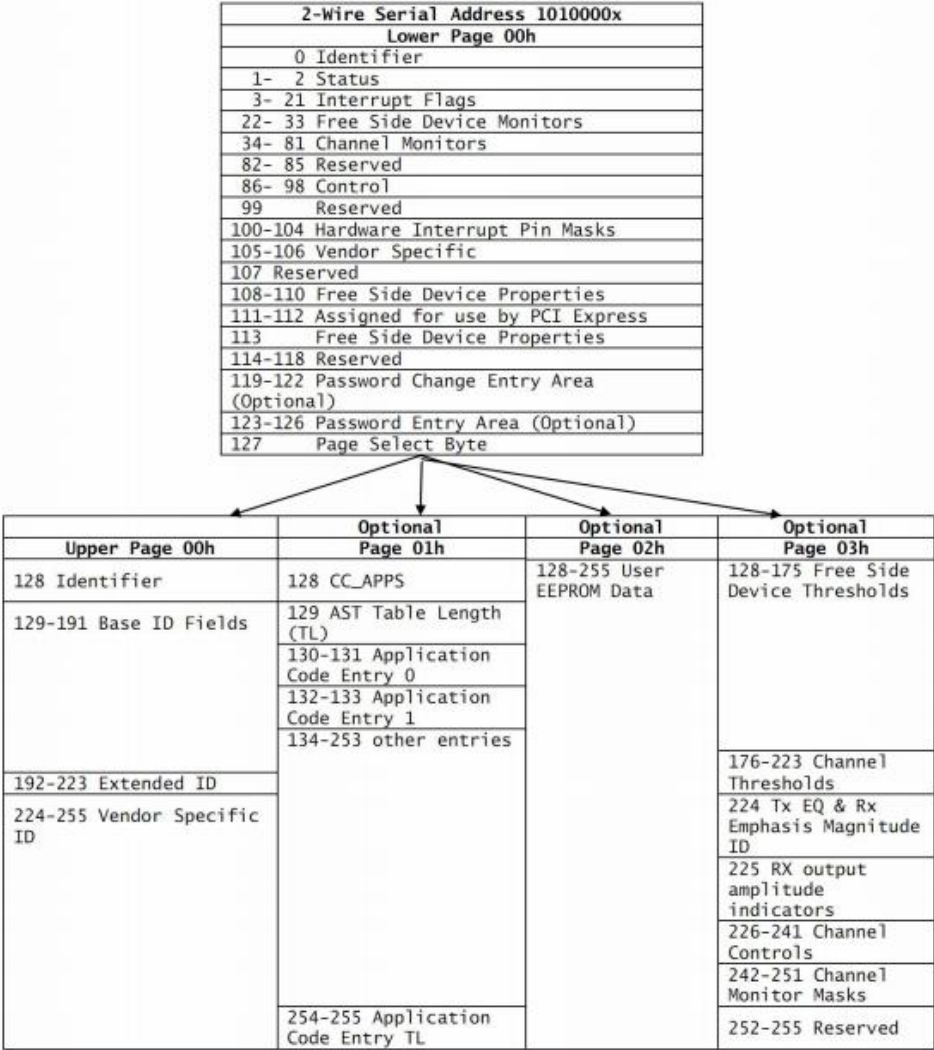
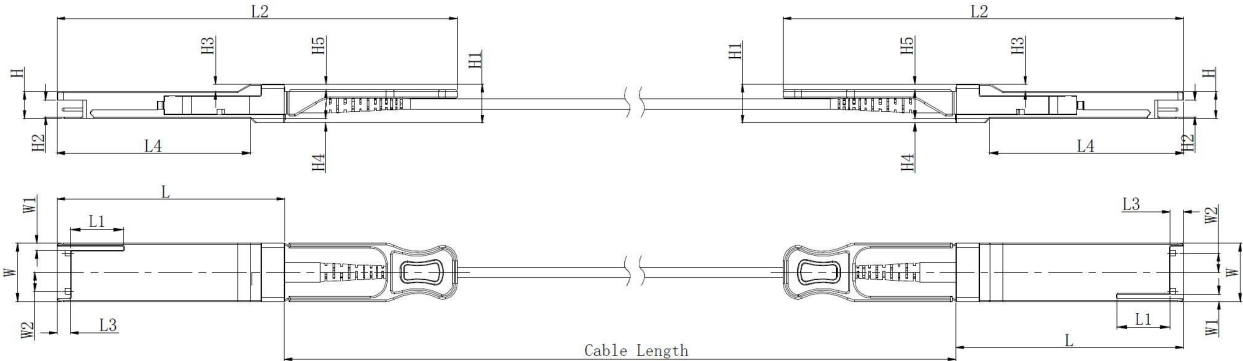


Figure3 Memory map

Mechanical



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

Cable Length

Table5-Cable Length		
Parameter	Value	Units
Diameter	3 ± 0.2	mm
Minimum bend radius	30	mm
Length tolerance	1 m \leq length \leq 4.5 m	+15 / -0
	5 m \leq length \leq 14.5 m	+30 / -0
	Length \geq 15.0 m	+2% / -0
Cable color	Aqua	

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.

Caution

All adjustments have been done at the factory before the shipment of the devices. No maintenance and user serviceable part is required. Tampering with and modifying the performance of the device will result in voided product warranty.

Contact Information

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