



200G QSFP56 to 200G QSFP56 Passive Direct Attach Copper Cables

FWH-200xxxxxC

Features

- QSFP56 conforms to the Small Form Factor SFF8636
- 4-Channel Full-Duplex Passive Copper Cable Transceiver
- Support data rates : 56Gb/s (Support 28GBaud PAM4)
- Maximum aggregate data rate: 200Gb/s (4 x 50Gb/s)
- Power Supply :+3.3V
- Low crosstalk
- I²C based two-wire serial interface for EEPROM
- signature which can be customized
- Operating Temperature: 0~ 70°C
- ROHS Compliant



Applications

- 40GE/100GE/200GE
- Infiniband QDR/FDR/EDR/HDR
- Data storage and communication industry
- Switch / router / HBA
- Enterprise network
- SAN
- Data Center Network

STANDARDS COMPLIANCE

- IEEE 802.3bj&IEEE802.3cd
- 100GEBASE-CR4&200GBASE-CR4
- InfiniBand architecture
- QSFP28 MSA
- RoHS Compliant

Product Description

The 200GE QSFP56 cable assemblies are high performance, cost effective I/O solutions for LAN, HPC and SAN. The high speed cable assemblies meet and exceed 200 Gigabit Ethernet, InfiniBand EDR /HDR and temperature requirements for performance and reliability. The cables are compliant with SFF-8436 specifications and provide connectivity between devices using QSFP ports.

Recommended Operating Conditions

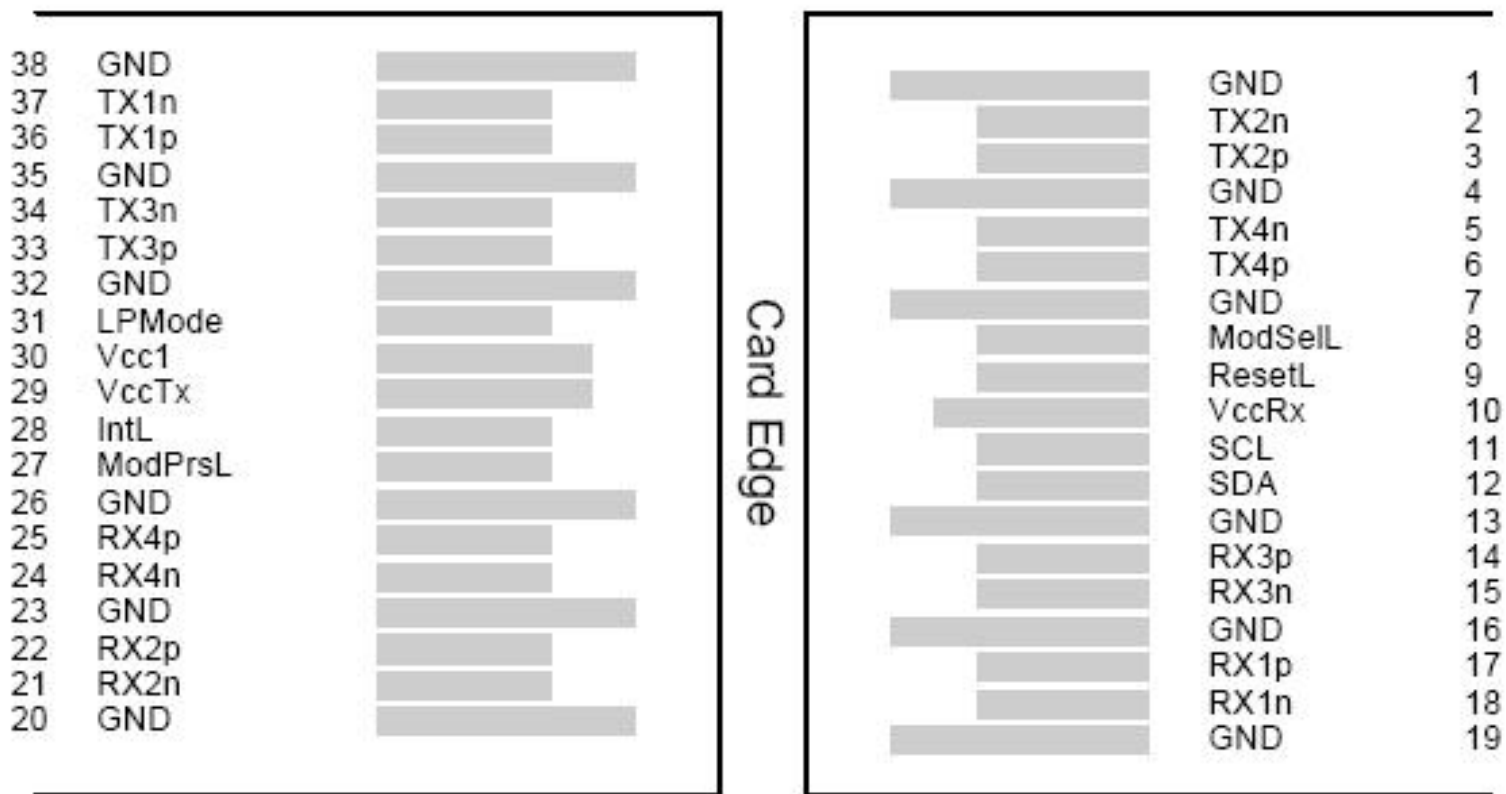


Parameter	Symbol	Min	Typical	Max	Unit
Storage Ambient Temperature		-40		+85	°C
Operating Case Temperature	Tc	0		+70	°C
Power Supply Voltage	VCC3	3.14	3.3	3.47	V
Data Rate Per Lane		1		28	GBaud/s

Differential Impedance

Parameter	Symbol	Min	Typical	Max	Unit
Differential Impedance(bulk cable)	Rin1,P-P	95	100	110	Ω
Differential Impedance (Mated connector)	Rin2,P-P	90	100	110	Ω
Differential Impedance(cable termination)	Rin3,P-P	85	100	110	Ω

PCB Contact Configuration



ELECTRICAL

Item	Specification
Low Level Contact Resistance	Initial: Baseline, with 75mm cable from the backshell edge. Change : 20 milliohms maximum
Insulation Resistance (Raw cable)	100VDC , 1000Mohm(Min.)
Dielectric Withstanding Voltage	AC 300V 1min, no breakdown or flash

SIGNAL INTEGRITY

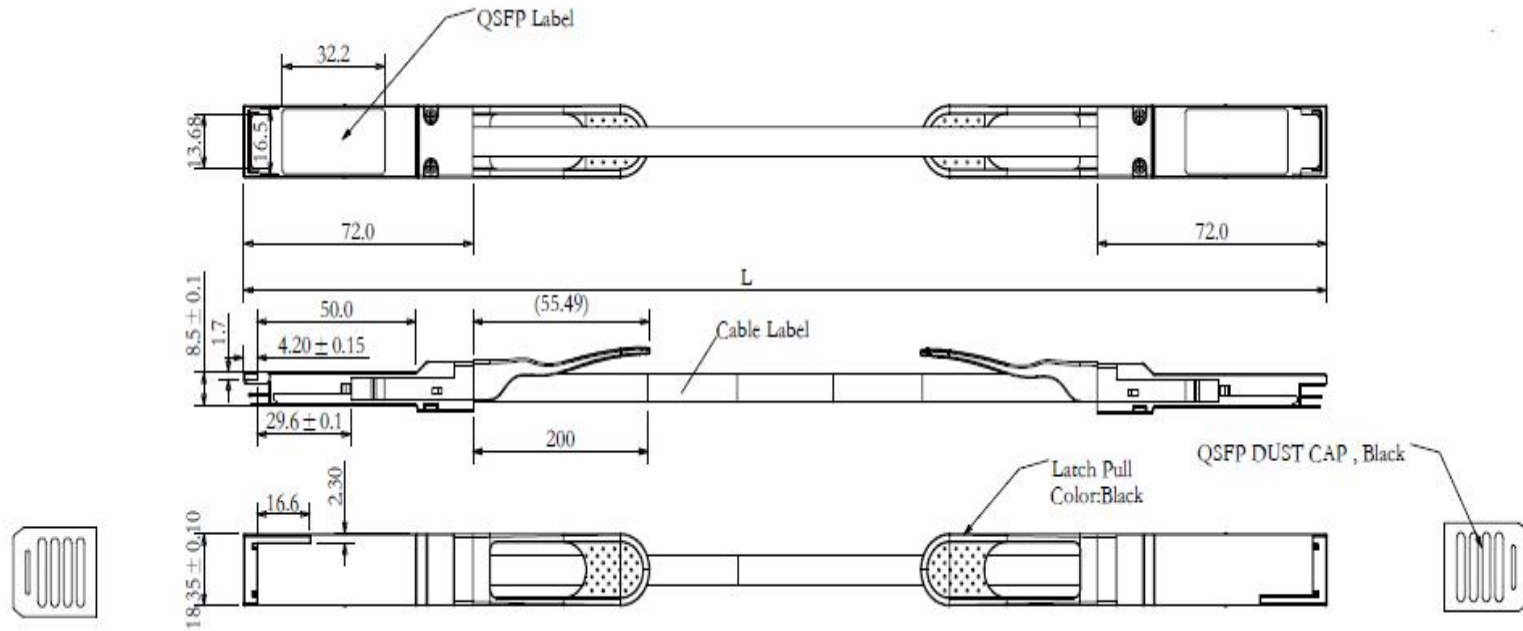
A	Time domain parameter	Test condition	SPEC		Equipment
1	Differential Impedance(bulk cable)	Tr:25ps	100+10/-5ohms		E5071C or DSA8300
2	Differential Impedance (Mated connector)		100+10/-10ohms		
3	Differential Impedance(cable)		100+10/-15ohms		
4	Intra-skew		L*15+20	L:length(m) SPEC:ps	
B	Frequency domain parameter	Test condition	Test spec(dB)	f(GHz)	
1	SDD11/SD D22	Freq:50MHz ~20GHz Points:1601	-22+20/25.78*f*10 ⁽⁻³⁾	0.05≤f<4.1	E5071C
			-10.66+14*log((f*10 ⁽⁻³⁾)/5.5) ≤5.3dB@13.26GHz	4.1≤f≤19	
2	SCC11/SC C22	Freq:50MHz ~20GHz Points:1601	≤-2dB	0.2≤f≤19	
3	SDC11/SD C22	Freq:50MHz ~20GHz Points:1601	-16+2*f/3	0.05≤f≤2	
5	SCD21- SDD21	Freq:50MHz ~20GHz Points:1601	10 as 0.01≤f < 12.89 -27+29/22*f*0.001 as 12.89≤f < 15.7 6.3 as 15.7≤f≤19	0.01≤f≤19	
6	MDNEXT	Freq:50MHz ~20GHz Points:1601	≤-26dB@12.89GHz	0.01≤f≤19	
7	SDD21	Freq:50MHz ~20GHz Points:1601 IE. 1KHz	-0.7*(f*10 ⁽⁻³⁾) ^{0.5} -0.3*(f*10 ⁽⁻³⁾)- 0.01*(f*10 ⁽⁻³⁾) ² <17.16dB@13.26GHz	0.01≤f≤19	
8	COM	IEEE802.3cd	>3dB		

MECHANICAL

Item	Specification
Mating Force	40N Max. With retention latch disengaged.
Un-mating Force	30N Max. With retention latch disengaged.
Latch retention force	90N Min.
Durability	250 cycles



Mechanical Dimensions



ENVIRONMENTAL

Item	Specification
Physical shock	Subject mated specimens to 30G's half-sine shock pulses of 11 milliseconds duration. 3 shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks
Vibration (random)	Subject mated specimens to 3.10G's rms between 20-500 Hz for 15 minutes in each of 3 mutually perpendicular planes
Thermal shock	100 cycles of: a) -55°C for 30 minutes b) +85°C for 30 minutes
Temperature Life	Subject mated Specimens to +105°C for 500 hours
Humidity and Temperature cycling	Subject unmated specimens to 10 cycles (10 days) between 25 and 65°C at 80% to 100% RH
Visual Examination.	Connectors & contacts shall have no evidence of physical defects or otherwise unfit for testing.

Regulatory Compliance

FIBERSTAMP FWH-200xxxxC passive cable assemblies meet the requirements of the following standards:

Feature	Standard
Electrical Safety	EN 62368-1: 2014 IEC 62368-1:2014 UL 62368-1:2014
Environmental protection	Directive 2011/65/EU with amendment(EU)2015/863
CE EMC	EN55032: 2015 EN55035: 2017 EN61000-3-2:2014 EN61000-3-3:2013
FCC	FCC Part 15, Subpart B; ANSI C63.4-2014



Ordering information

Part Number	FWH-200xxxxxC		
FWH-200xxxxxC	FSDP-200G-010M	FSDP-200G-020M	FSDP-200G-030M
Length (meter)	1	2	3
Wire gauge (AWG)	30	30	26

Important Notice

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