
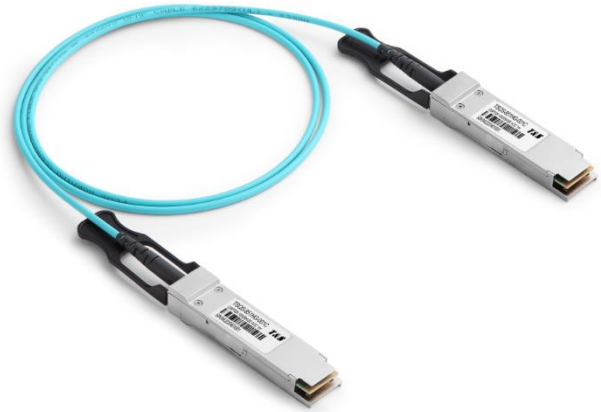


200G QSFP56 Active Optical Cable TSQS-852HG-xxxC

Features

- Hot-pluggable QSFP56 form factor
- 4 channels full-duplex transceiver modules
- Transmission data rate up to 53Gbps per channel
- 4 channels 850nm VCSEL array
- 4 channels PIN photo detector array
- Internal CDR circuits on both receiver and transmitter channels
- Support CDR bypass
- Low power consumption < 5.5W per end
- MPO-12 connector receptacle
- Built-in digital diagnostic functions
- Operating case temperature: 0°C to +70°C
- RoHS6 compliant (lead free) 



Applications

- 200G 100m Ethernet Applications
- Other optical links

Description

The TSQS-852HG-XXXC is a Four-Channels, Pluggable, Parallel, Fiber-Optic QSFP56 for 200 Gigabit Ethernet Applications. This transceiver is a high performance module for short-range multi-lane data communication and interconnection applications. It integrates four data lanes in each direction. The optical interface uses a 12 fiber MTP (MPO) connector.

Absolute Maximum Ratings

Parameter	Symbol	Min	Typical	Max	Unit
Power Supply Voltage	VCC	-0.5	-	+3.6	V
Storage Temperature	Tc	-40	-	+85	°C
Relative Humidity	RH	15	-	85	%

Recommended Operating Environment

Parameter	Symbol	Min	Typical	Max	Unit
Power Supply Voltage	VCC	3.135	3.30	3.45	V
Supply Current	Icc	-	-	1594	mA
Operating Case Temperature	TC	0	25	70	°C

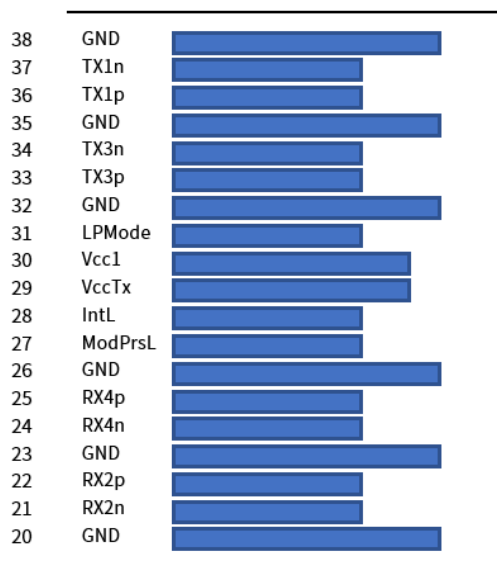
Electrical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit
Signaling Speed per Lane	-	26.5625±100ppm			Gbps
Differential Input Voltage Amplitude ¹	Vin	900	-	-	mV
Differential termination mismatch	-	-	-	10	%
Input Logic Level High	VIH	2.0	-	VCC	V
Input Logic Level Low	VIL	0	-	0.8	V
Output Logic Level High	VOH	VCC-0.5	-	VCC	V
Output Logic Level Low	VOL	0	-	0.4	V

Notes:

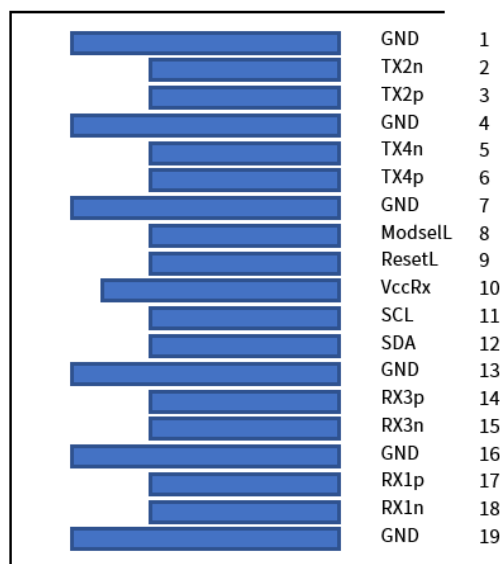
[1] Differential input voltage amplitude is measured between TxnP and TxnN.

Electrical Pad Layout



Top Side
Viewed From Top

Module Card Edge



Bottom Side
Viewed From Bottom

Pin Definition

Pin	Symbol	Name/Description
1	GND	Ground
2	Tx2n	Transmitter Inverted Data Input
3	Tx2p	Transmitter Non-Inverted Data Input
4	GND	Ground
5	Tx4n	Transmitter Inverted Data Input
6	Tx4p	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	Receiver Non-Inverted Data Output
15	Rx3n	Receiver Inverted Data Output
16	GND	Ground
17	Rx1p	Receiver Non-Inverted Data Output
18	Rx1n	Receiver Inverted Data Output
19	GND	Ground
20	GND	Ground
21	Rx2n	Receiver Inverted Data Output
22	Rx2p	Receiver Non-Inverted Data Output
23	GND	Ground
24	Rx4n	Receiver Inverted Data Output
25	Rx4p	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

Information and specifications are subject to change without notice.
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32	GND	Ground
33	Tx3p	Transmitter Non-Inverted Data Input
34	Tx3n	Transmitter Inverted Data Input
35	GND	Ground
36	Tx1p	Transmitter Non-Inverted Data Input
37	Tx1n	Transmitter Inverted Data Input
38	GND	Ground

Ordering Information

Part Number	Product Description
TSQS-852HG-XXX	QSFP56 200G AOC 0°C ~ +70°C

XXX :001~070,1~70 Length in meters on OM3 MMF

XXX :001~100,1~100 Length in meters on OM4 MMF

References

- SFF-8665: “QSFP+ 28Gb/s 4X Pluggable Transceiver Solution (QSFP28)”, Rev 1.9, June 29, 2015 and associated SFF documents referenced therein: **SFF-8661**
 - SFF-8679
 - SFF-8662
 - SFF-8663
 - SFF-8672
 - SFF-8472
- Directive 2011/65/EU of the European Parliament and of the Council, “on the restriction of the use of certain hazardous substances in electrical and electronic equipment,” July 1, 2011.
- IEEE P802.3bm.

Important Notice

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