Nexolight

Datasheet

NXQD-8508-M1D

QSFP-DD 400GBASE-SR8 100m Multimode

Features

- QSFP-DD Form Factor
- 400 Gb/s bitrate
- Up to 100 m over Multimode
- MPO connector
- 850 nm, VCSEL laser, PIN photodiode
- Up to 10 W power consumption
- +0/+70°C temperature range
- Built in digital diagnostic monitoring

Applications

- 400GBase Ethernet
- Access and Enterprise

Optical specifications

Optical budget EOL : 1.9 dB

Transmitter & Receiver optical Specifications

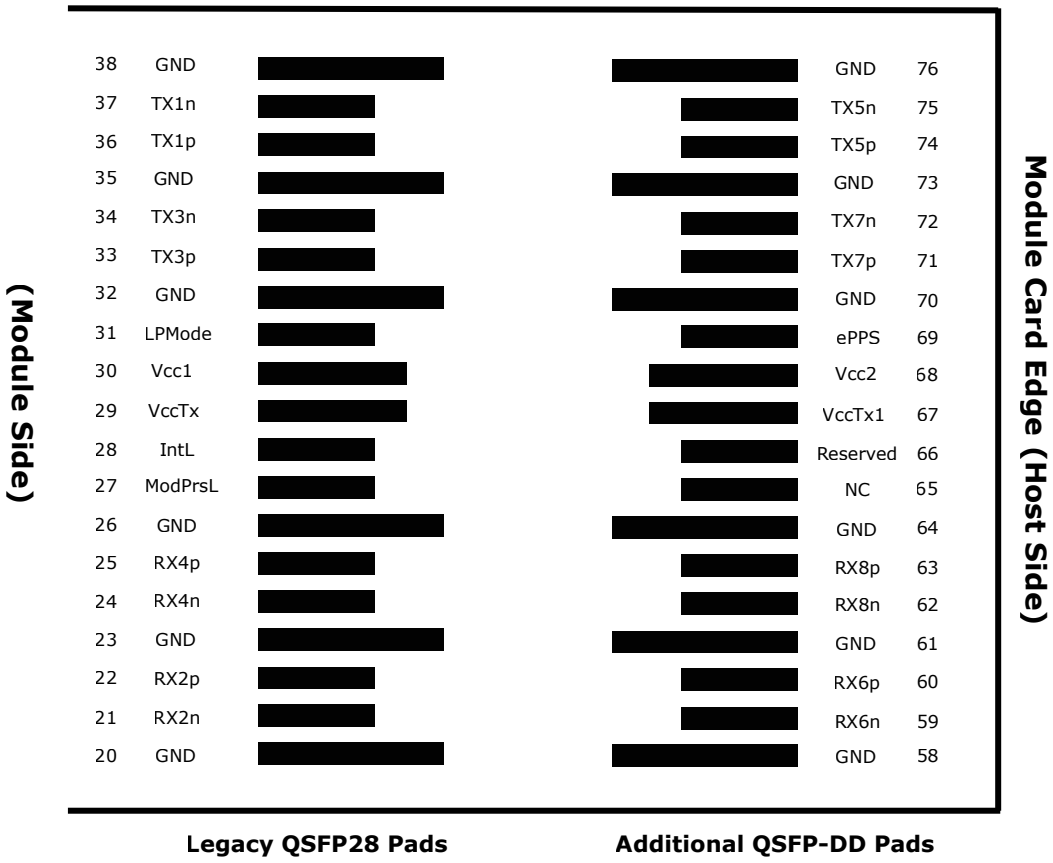
Parameter	Min	Max	Unit
Tx Power	-6	4	dBm
Rx Sensitivity	-7.9	4	dBm

Electrical & Environmental Specifications

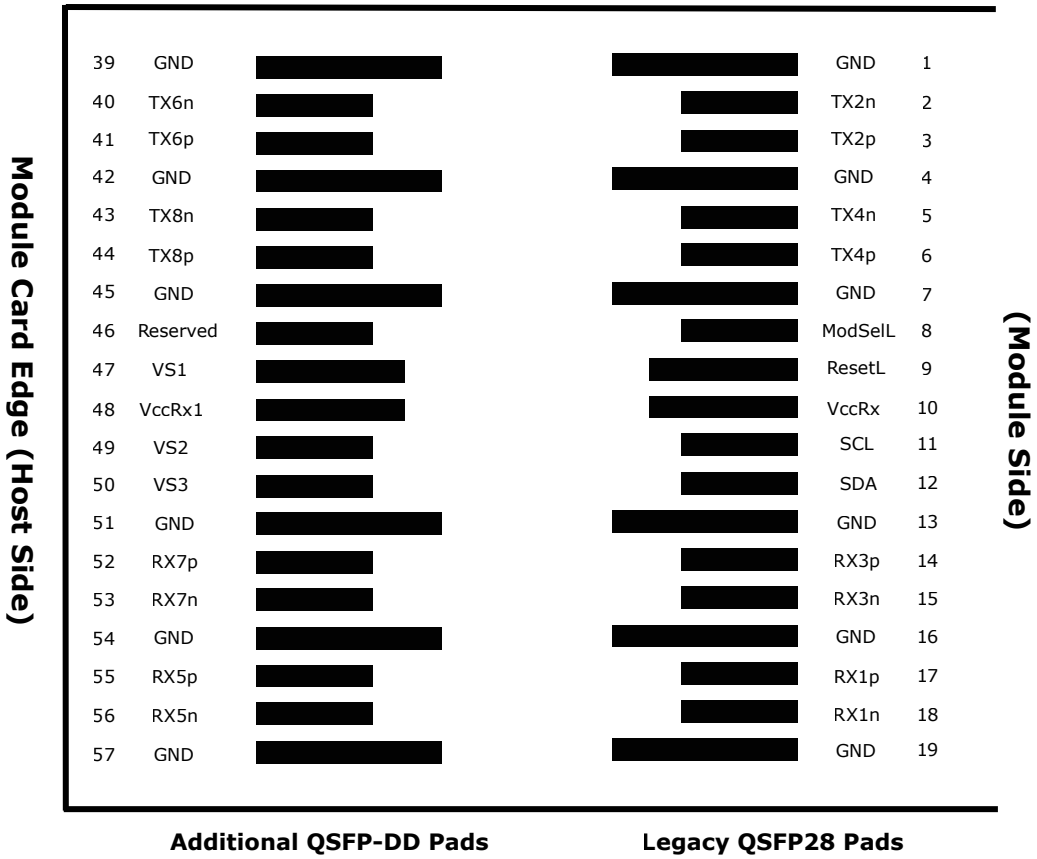
Parameter	Value	Unit
Power supply voltage	3.3	V
Power supply current	3030.3	mA
MTBF	5280000	hrs
Relative humidity	0~85	%

Transceiver electrical pad layout

Top site viewed from top



Bottom site viewed from bottom



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Module electrical PIN definition

QSFP-DD - QSFP-DD MSA and 400GAUI-8

Pin	Symbol	Description	Note
1	GND	Ground	1
2	Tx2n	Transmitter Inverted Data Input	
3	Tx2p	Transmitter Non-Inverted Data Input	
4	GND	Ground	1
5	Tx4n	Transmitter Inverted Data Input	
6	Tx4p	Transmitter Non-Inverted Data Input	
7	GND	Ground	1
8	ModSelL	Module Select	
9	ResetL	Module Reset	
10	VccRx	+3.3V Power Supply Receiver	2
11	SCL	2-wire serial interface clock	
12	SDA	2-wire serial interface data	
13	GND	Ground	1
14	Rx3p	Receiver Non-Inverted Data Output	
15	Rx3n	Receiver Inverted Data Output	
16	GND	Ground	1
17	Rx1p	Receiver Non-Inverted Data Output	
18	Rx1n	Receiver Inverted Data Output	
19	GND	Ground	1
20	GND	Ground	1
21	Rx2p	Receiver Non-Inverted Data Output	
22	Rx2n	Receiver Inverted Data Output	
23	GND	Ground	1
24	Rx4p	Non-Inverted Data Output	
25	Rx4n	Receiver Inverted Data Output	
26	GND	Ground	1
27	ModPrsl	Module Present	
28	IntL	Interrupt	
29	VccTx	+3.3V Power supply transmitter	2
30	Vcc1	+3.3V Power supply	2
31	LPMode	Low Power mode	
32	GND	Ground	1
33	Tx3p	Transmitter Non-Inverted Data Input	
34	Tx3n	Transmitter Inverted Data Input	
35	GND	Ground	1
36	Tx1p	Transmitter Non-Inverted Data Input	
37	Tx1n	Transmitter Inverted Data Input	
38	GND	Ground	1
39	GND	Ground	1
40	Tx6n	Transmitter Inverted Data Input	
41	Tx6p	Transmitter Non-Inverted Data Output	
42	GND	Ground	1

Pin	Symbol	Description	Note
43	Tx8n	Transmitter Inverted Data Input	
44	Tx8p	Transmitter Non-Inverted Data Output	
45	GND	Ground	1
46	Reserved	For future use	3
47	VS1	Module Vendor Specific1	3
48	VccRx1	3.3V Power Supply	2
49	VS2	Module Vendor Specific2	3
50	VS3	Module Vendor Specific3	3
51	GND	Ground	1
52	Rx7p	Receiver Non-Inverted Data Output	
53	Rx7n	Receiver Inverted Data Output	
54	GND	Ground	1
55	Rx5p	Receiver Non-Inverted Data Output	
56	Rx5n	Receiver Inverted Data Output	
57	GND	Ground	1
58	GND	Ground	1
59	Rx6n	Receiver Inverted Data Output	
60	Rx6p	Receiver Non-Inverted Data Output	
61	GND	Ground	1
62	Rx8n	Receiver Inverted Data Output	
63	Rx8p	Receiver Non-Inverted Data Output	
64	GND	Ground	1
65	NC	No Connect	3
66	Reserved	For future use	3
67	VccTx1	3.3V Power Supply	2
68	Vcc2	3.3V Power Supply	2
69	ePPS	Precision Time Protocol (PTP) reference clock input	3
70	GND	Ground	1
71	Tx7p	Transmitter Non-Inverted Data Output	
72	Tx7n	Transmitter Inverted Data Output	
73	GND	Ground	1
74	Tx5p	Transmitter Non-Inverted Data Output	
75	Tx5n	Transmitter Inverted Data Output	
76	GND	Ground	1

Note

1. QSFP-DD uses common ground (GND) for all signals and supply (power). All are common within the QSFP-DD module and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal common ground plane.

2. VccRx, VccRx1, Vcc1, Vcc2, VccTx and VccTx1 shall be applied concurrently. Requirements defined for the host side of the Host Card Edge Connector are listed in Table 6. VccRx, VccRx1, Vcc1, Vcc2, VccTx and VccTx1 may be internally connected within the module in any combination. The connector Vcc pins are each rated for a maximum current of 1000 mA.

3. All Vendor Specific, Reserved and No Connect pins may be terminated with 50 ohms to ground on the host. Pad 65 (No Connect) shall be left unconnected within the module. Vendor specific and reserved pads shall have an impedance to GND that is greater than 10Kohms and less than 100 pF.