QSFP56 200G FR4 2km

QSFP56 transceiver · 200G · 1271 / 1291 / 1311 / 1331 nm (CWDM) · 2 km SMF · Duplex LC · NVIDIA compatible

The GLOBALfiber Q200G-FR4-NV is a 200G QSFP56 transceiver for NVIDIA InfiniBand and Ethernet networks. It uses 4 × 50G PAM4 lanes at 1271 / 1291 / 1311 / 1331 nm (CWDM) for links up to 2 km SMF over Duplex LC. The module is coded for NVIDIA equipment and is available with InfiniBand or Ethernet coding.



KEY FEATURES

- QSFP56 form factor
- 200G, 4 × 50G PAM4, 26.5625 GBd
- Wavelength 1271 / 1291 / 1311 / 1331 nm (CWDM)
- Reach up to 2 km SMF
- Duplex LC optical connector
- Max. power consumption 5.5 W
- Digital diagnostics (DDM), hot-pluggable
- Case temperature 0 to +70 °C

APPLICATIONS & COMPATIBILITY

- NVIDIA switches: Quantum QM8700/QM8790, Spectrum-2 SN3700, Spectrum-3 SN4600
- NVIDIA adapters / systems: ConnectX-6, ConnectX-6 Dx, ConnectX-7 (QSFP112-port), BlueField-2/3
- Replaces NVIDIA MMS1W50-HM

KEY SPECIFICATIONS

Form factor	QSFP56
Data rate	200G
Lanes	4 × 50G PAM4, 26.5625 GBd
Wavelength	1271 / 1291 / 1311 / 1331 nm (CWDM)
Reach	2 km SMF
Connector	Duplex LC
Fiber	Singlemode
Max. power	5.5 W
Case temperature	0 to +70 °C
Protocol	InfiniBand or Ethernet (HDR / 200GbE)

ORDERING INFORMATION

GLOBALfiber item	Coding	Replaces NVIDIA	Description
Q200G-FR4-NVI	IB InfiniBand	MMS1W50-HM	QSFP56 200G FR4 2km
Q200G-FR4-NVE	ETH Ethernet	MMS1W50-HM	QSFP56 200G FR4 2km

Choose the coding that matches the host: InfiniBand for NVIDIA Quantum switches, Ethernet for NVIDIA Spectrum switches. Other coding on request: salg@globalfiber.no.

ABSOLUTE MAXIMUM RATINGS

Parameter	Min	Max	Unit
Supply voltage	-0.5	3.6	V
Control input voltage	-0.3	Vcc+0.5	V
Storage temperature	-40	85	°C
Relative humidity (non-condensing)	5	95	%

RECOMMENDED OPERATING CONDITIONS

Parameter	Min	Typ	Max	Unit
Case temperature	0	–	70	°C
Supply voltage	3.135	3.3	3.465	V
Power consumption	–	–	5.5	W
Link distance	2	–	2000	m

OPTICAL CHARACTERISTICS – TRANSMITTER (PER LANE)

Parameter	Min	Typ	Max	Unit
Lane 0 wavelength	1264.5	1271	1277.5	nm
Lane 1 wavelength	1284.5	1291	1297.5	nm
Lane 2 wavelength	1304.5	1311	1317.5	nm
Lane 3 wavelength	1324.5	1331	1337.5	nm
Side-mode suppression ratio	30	–	–	dB
Total average launch power	–	–	10.7	dBm
Average launch power per lane	-4.2	–	4.7	dBm
OMA outer per lane	-1.2	–	4.5	dBm
Launch OMA outer minus TDECQ	-2.5	–	–	dBm
TDECQ	–	–	3.3	dB
Extinction ratio	3.5	–	–	dB
Average power with TX off	–	–	-30	dBm

OPTICAL CHARACTERISTICS – RECEIVER (PER LANE)

Parameter	Min	Max	Unit
Damage threshold	5.7	–	dBm
Average receive power per lane	-8.2	4.7	dBm
Sensitivity OMA outer	–	-6.5	dBm
Stressed sensitivity OMA outer	–	-3.6	dBm
Receiver reflectance	–	-26	dB
LOS assert / de-assert	-22	-9	dBm

DIGITAL DIAGNOSTICS (DDM)

Parameter	Range	Accuracy
Case temperature	0 to 70 °C	±3 °C
Supply voltage	0 to Vcc	±0.1 V
TX bias per lane	0 to 100 mA	±10 %
TX power per lane	Operating range	±3 dB
RX power per lane	Operating range	±3 dB

COMPLIANCE

- IEEE 802.3bs (200GBASE-FR4)
- QSFP56 MSA
- SFF-8636
- Class 1 laser product
- RoHS compliant

INSTALLATION NOTES

- Use in QSFP56 host ports.
- Confirm host support, port mode, firmware version and FEC before deployment.
- Check the optical link budget and fiber loss for the full link (singlemode fiber, Duplex LC).
- Keep connectors clean and capped when not in use.

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