QSFP112 400G DR4 500m

QSFP112 transceiver · 400G · 1311 nm · 500 m SMF · MPO-12/APC · NVIDIA compatible

The GLOBALfiber Q400G-DR4-NV is a 400G QSFP112 transceiver for NVIDIA InfiniBand and Ethernet networks. It uses 4 × 100G PAM4 lanes at 1311 nm for links up to 500 m SMF over MPO-12/APC. The module is coded for NVIDIA equipment and is available with InfiniBand or Ethernet coding.



KEY FEATURES

- QSFP112 form factor
- 400G, 4 × 100G PAM4, 53.125 GBd
- Wavelength 1311 nm
- Reach up to 500 m SMF
- MPO-12/APC optical connector
- Max. power consumption 10 W
- Digital diagnostics (DDM), hot-pluggable
- Case temperature 0 to +70 °C

APPLICATIONS & COMPATIBILITY

- NVIDIA adapters / systems: ConnectX-7 (QSFP112), BlueField-3, ConnectX-8 C8240
- Replaces NVIDIA MMS1X00-NS400

KEY SPECIFICATIONS

Form factor	QSFP112
Data rate	400G
Lanes	4 × 100G PAM4, 53.125 GBd
Wavelength	1311 nm
Reach	500 m SMF
Connector	MPO-12/APC
Fiber	Singlemode
Max. power	10 W
Case temperature	0 to +70 °C
Protocol	InfiniBand or Ethernet (NDR)

ORDERING INFORMATION

GLOBALfiber item	Coding	Replaces NVIDIA	Description
Q400G-DR4-NVI	IB InfiniBand	MMS1X00-NS400	QSFP112 400G DR4 500m
Q400G-DR4-NVE	ETH Ethernet	MMS1X00-NS400	QSFP112 400G DR4 500m

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	–	–	10	W
Link distance	2	–	500	m

OPTICAL CHARACTERISTICS – TRANSMITTER (PER LANE)

Parameter	Min	Typ	Max	Unit
Center wavelength	1304.5	1311	1317.5	nm
Side-mode suppression ratio	30	–	–	dB
Average launch power per lane	-2.9	–	4.0	dBm
OMA outer per lane	-0.8	–	4.2	dBm
Launch OMA outer minus TDECQ	-2.2	–	–	dBm
TDECQ	–	–	3.4	dB
Extinction ratio	3.5	–	–	dB
Average power with TX off	–	–	-15	dBm
RIN (OMA)	–	–	-136	dB/Hz
Transmitter reflectance	–	–	-26	dB

OPTICAL CHARACTERISTICS – RECEIVER (PER LANE)

Parameter	Min	Max	Unit
Damage threshold	5	–	dBm
Average receive power per lane	-5.9	4.0	dBm
Receive power OMA outer	–	4.2	dBm
Sensitivity OMA outer (informative)	–	-3.9	dBm
Stressed sensitivity OMA outer	–	-1.9	dBm
Receiver reflectance	–	-26	dB

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 (400GBASE-DR4)
- QSFP112 MSA
- CMIS 5.0
- IEEE 802.3ck (400GAUI-4 C2M)
- Class 1 laser product
- RoHS compliant

INSTALLATION NOTES

- Use in QSFP112 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, MPO-12/APC).
- Keep connectors clean and capped when not in use.

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