QSFP28 100G ER4 40km

QSFP28 transceiver · 100G · 1295.56 / 1300.05 / 1304.58 / 1309.14 nm (LAN-WDM) · 40 km SMF · Duplex LC · NVIDIA compatible

The GLOBALfiber Q100G-ER4-NVI is a 100G QSFP28 transceiver for NVIDIA InfiniBand networks. It uses 4 × 25G NRZ lanes at 1295.56 / 1300.05 / 1304.58 / 1309.14 nm (LAN-WDM) for links up to 40 km SMF over Duplex LC. The module is coded for NVIDIA equipment and is available with InfiniBand coding.



KEY FEATURES

- QSFP28 form factor
- 100G, 4 × 25G NRZ, 25.78125 Gb/s
- Wavelength 1295.56 / 1300.05 / 1304.58 / 1309.14 nm (LAN-WDM)
- Reach up to 40 km SMF
- Duplex LC optical connector
- Max. power consumption 4.5 W
- Digital diagnostics (DDM), hot-pluggable
- Case temperature 0 to +70 °C

APPLICATIONS & COMPATIBILITY

- NVIDIA switches: Switch-IB 2 SB7800/SB7890, Quantum QM8700/QM8790 (HDR100/EDR)
- NVIDIA adapters / systems: ConnectX-4, ConnectX-5, ConnectX-6, ConnectX-6 Dx, ConnectX-7, BlueField-2/3
- Replaces NVIDIA SPQ-CE-ER-CDFL-M

KEY SPECIFICATIONS

Form factor	QSFP28
Data rate	100G
Lanes	4 × 25G NRZ, 25.78125 Gb/s
Wavelength	1295.56 / 1300.05 / 1304.58 / 1309.14 nm (LAN-WDM)
Reach	40 km SMF
Connector	Duplex LC
Fiber	Singlemode
Max. power	4.5 W
Case temperature	0 to +70 °C
Protocol	InfiniBand (EDR / 100GbE)

ORDERING INFORMATION

GLOBALfiber item	Coding	Replaces NVIDIA	Description
Q100G-ER4-NVI	IB InfiniBand	SPQ-CE-ER-CDFL-M	QSFP28 100G ER4 40km

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	–	–	4.5	W
Link distance	2	–	40000	m

OPTICAL CHARACTERISTICS – TRANSMITTER (PER LANE)

Parameter	Min	Typ	Max	Unit
Lane 0 wavelength	1294.53	1295.56	1296.59	nm
Lane 1 wavelength	1299.02	1300.05	1301.09	nm
Lane 2 wavelength	1303.54	1304.58	1305.63	nm
Lane 3 wavelength	1308.09	1309.14	1310.19	nm
Side-mode suppression ratio	30	–	–	dB
Total average launch power	–	–	10.5	dBm
Average launch power per lane	-2.9	–	4.5	dBm
OMA per lane	0.1	–	4.5	dBm
TDP per lane	–	–	2.5	dB
Extinction ratio	7	–	–	dB
Average power with TX off	–	–	-30	dBm

OPTICAL CHARACTERISTICS – RECEIVER (PER LANE)

Parameter	Min	Max	Unit
Damage threshold	-3.0	–	dBm
Average receive power per lane	-20.9	-4.9	dBm
Receive power OMA	–	-1.9	dBm
Sensitivity OMA (with FEC)	–	-18.65	dBm
Stressed sensitivity OMA (with FEC)	–	-16.65	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 802.3ba (100GBASE-ER4)
- QSFP28 MSA
- SFF-8636
- Class 1 laser product
- RoHS compliant

INSTALLATION NOTES

- Use in QSFP28 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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