

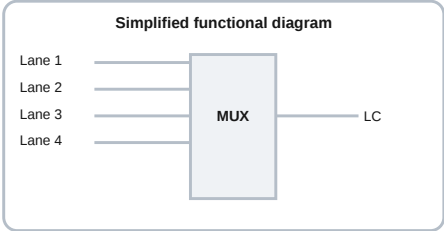
QSFP28-LR4-100G

QSFP28, 100GbE-LR4, 4x25.8 Gbps, 10km

1310nm, 6.3dB, SM, LC

1. Product overview

100GBASE-LR4 QSFP28 transceiver with four LAN-WDM optical channels multiplexed onto a duplex LC interface. Designed for up to 10 km over single-mode fiber.



2. Key features

- QSFP28 MSA compliant
- 103.1 Gb/s aggregate data rate
- 10 km on single-mode fiber
- IEEE 802.3ba LR4 optical specification
- 4x25 Gb/s DFB LAN-WDM transmitter
- Digital diagnostics via SFF-8636

3. Applications

- 100GBASE-LR4 Ethernet links

4. Technical data

Parameter	Value	Parameter	Value
Technology	100G QSFP28 LR4	Media	SMF, duplex LC
Reach	10 km	Wavelengths	1295.56/1300.05/1304.58/1309.14 nm
Aggregate rate	103.1 Gb/s	Budget	6.3 dB
Power	3.5 W table / <4 W feature	DDM	SFF-8636

5. Recommended operating conditions

Parameter	Value
Case temperature	0 to +70 °C
Supply voltage	3.14 to 3.46 V
Power consumption	3.5 W
Low-power mode	1.5 W

QSFP28-LR4-100G

6. Optical characteristics

Parameter	Specification	Parameter	Specification
Signaling rate, each lane	25.78125±	Signaling rate, each lane	27.9525±
100 ppm Gb/s		20 ppm Gb/s	
Lane Wavelength Range		Average launch Power per channel	-0.6 4 dBm
Lane	0 1294.53 / 1296.59 nm	Total Average Launch Power	10 dBm
Lane	1 1299.02 / 1301.09 nm	Channel power difference	5 dB
Lane	2 1303.54 / 1305.63 nm	Extinction Ratio	4 7 dB
Lane	3 1308.09 / 1310.19 nm	Optical Return Loss	20 dB
Average Optical Power per lane	-4.3 4.5 dBm	Transmitter Output Power Monitoring Accuracy	-3 3 dB
Total Average Launch Power	10.5 dBm	Transmitter Eye Mask Definition {X1, X2, X3, Y1, Y2Z Y3} (	0.25, 0.4, 0.45, 0.25, 0.28, 0.4) 1
Optical Modulation Amplitude (OMA), each lane	-1.3 4.5 dBm	Signaling rate, each lane	27.9525± 20 ppm Gb/s
Launch Power in OMA minus TDP , each lane	-2.3 dBm	Average Input Power per Channel	-6.9 4.0 dBm
Transmitter and Dispersion Penalty TDP) each lane	2.2 dB	Total Average Input Power	10.0 dBm
Average Launch Power per Lane @ TX Off State	-30 dBm	Optical Path penalty	1.5 dB
Extinction Ratio	4 dB	Channel Power Difference	5.5 dB
Relative Intensity Noise (OMA)	-130 dB/Hz	Receiver Reflectance	-26.0 dB
Side-Mode Suppression Ration (SMSR)	30 dB	Equivalent Sensitivity per Channel	-8.4 dBm
Optical Return Loss Tolerance	20 dB	Receive Power Monitor Accuracy	-3.0 3.0 dB
Transmitter Reflectance	-12 dB	0TU4 4I1-9D1F OPERATION	
100GBASE-LR4 OPERATION			

7. Digital diagnostics and management

Parameter	Specification
Management interface	2-wire serial / I2C through QSFP28 management interface
Digital diagnostics	Temperature, supply voltage, TX bias/power and RX power where implemented
Module controls	ModSelL, ResetL, LPMode, ModPrsL and IntL as applicable
Form factor	Hot-pluggable QSFP28, 38-pin host interface

8. Safety and regulatory

RoHS compliance and normal ESD handling precautions apply. Where stated in the source specification, the optical module is a Class 1 laser product and must be handled in accordance with applicable laser-safety requirements.

9. Ordering information

Ordering number	Product description
Q100G-LR4	QSFP28, 100GbE-LR4, 4x25.8 Gbps, 10km; 1310nm, 6,3dB, SM

10. General notes

Specifications in this two-page summary are condensed from the supplied GLOBALfiber source data sheet. Values and terminology are retained from the source; no external specifications have been substituted.