

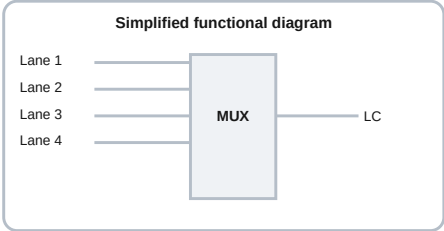
QSFP28-ER4-100G

QSFP28, 100GbE-ER4, 4x25.8 Gbps, 40km

1310nm, 18dB, SM, LC

1. Product overview

100GBASE-ER4 QSFP28 transceiver for up to 40 km over single-mode fiber. Four LAN-WDM optical lanes are multiplexed onto a duplex LC interface.



2. Key features

- 4-lane LAN-WDM MUX/DEMUX design
- Up to 40 km over SMF without FEC per feature text
- Aggregate bandwidth >100 Gb/s
- Duplex LC connector
- CAUI-4 host interface; ITU-T G.959.1 reference
- Built-in digital diagnostics; 0°C to +70°C

3. Applications

- Local Area Network
- Wide Area Network
- Ethernet switches and routers

4. Technical data

Parameter	Value	Parameter	Value
Technology	100G QSFP28 ER4	Media	SMF, duplex LC
Reach	40 km	Wavelengths	1295.56/1300.05/1304.58/1309.14 nm
Host lanes	4x25.78125 Gb/s	Budget	18 dB
Power	5 W max	DDM	Yes

5. Recommended operating conditions

Parameter	Value
Operating case temperature	0 to +70 °C
Supply voltage	3.13 / 3.3 / 3.47 V
Supply current	1.1 to 1.5 A
Power dissipation	up to 5 W

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6. Optical characteristics

Parameter	Specification	Parameter	Specification
Transmitter		Transmitter Eye Mask Definition {X1, X2, X3, Y1, Y2, Y3} "{ 0.25, 0.4, 0.45, 0.25, 0.28, 0.4}"	
Wavelength Assignment		Optical Return Loss Tolerance	20 dB
L0	1294.53 1295.56 1296.59 nm	Average Launch Power OFF Transmitter, each Lane Poff	-30 dBm
L1	1299.02 1300.05 1301.09 nm	Relative Intensity Noise Rin	-128 dB/HZ 1
L2	1303.54 1304.58 1305.63 nm	Optical Return Loss Tolerance	12 dB
L3	1308.09 1309.14 1310.19 nm	Receiver	
Side-mode Suppression Ratio SMSR	30 - - dB	Damage Threshold THd	3.3 dBm 1
Total Average Launch Power PT	0 - 8.3 dBm	Average Power at Receiver Input, each Lane R	-21.5 dBm 2
Average Launch Power, each Lane	-1 4 dBm	RSSI Accuracy	-2 2 dB
Difference in Launch Power between any two Lanes		Receiver Reflectance Rxr	-26 dB
(OMA)	6.5 dB	Receiver Power (OMA), each Lane	3.5 dBm
Optical Modulation Amplitude, each Lane OMA	-4 4.5 dBm	Receiver sensitivity (AOP), each lane dBm	-20.9 2
Launch Power in OMA minus Transmitter and Dispersi-		LOS De-Assert LOSD	-25 dBm
on Penalty (TDP), each Lane	-4.8 dBm	LOS Assert LOSA	-35 dBm
TDP , each Lane TDP	2.2 dB	LOS Hysteresis LOSH	0.5 dB
Extinction Ratio ER	4 - dB	OPTICAL PARAMETERS	

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-ER4	QSFP28, 100GbE-ER4, 4x25.8 Gbps, 40km; 1310nm, 18dB, 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.