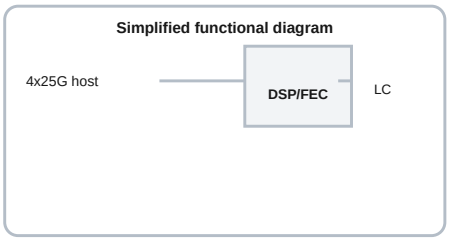
Q100G-L40-DOxx

QSFP28, 100GbE, O-Band DWDM

40km, 18dB, SM, LC, SM

1. Product overview

QSFP28 optical transceiver for 8-channel O-band WDM with 400 GHz channel spacing (nWDM) and up to 40 km transmission over single-mode fiber. The module converts 4x25 Gb/s NRZ electrical data to one 100 Gb/s PAM4 optical channel and provides the reverse conversion on receive.



2. Key features

- Hot-pluggable QSFP28 form factor
- Supports 106.25 Gb/s PAM4
- High-sensitivity APD receiver
- 8 O-band nWDM wavelengths with 400 GHz spacing
- Up to 40 km over SMF
- Duplex LC, I2C management, QSFP28 MSA compliant

3. Applications

- 100G multi-wavelength WDM
- Transmission over 40 km

4. Technical data

Parameter	Value	Parameter	Value
Technology	100G O-band nWDM PAM4	Media	SMF, duplex LC
Reach	40 km	Channel spacing	400 GHz, 8 wavelengths
Host	4x25 Gb/s NRZ	Optical rate	106.25 Gb/s PAM4
Power	up to 5.5 W	Temperature	-5°C to +80°C

5. Recommended operating conditions

Parameter	Specification
Supply voltage	3.135 / 3.3 / 3.465 V
Supply current	up to 1.8 A
Operating case temperature	-5°C to +80°C
Link distance	Up to 40 km

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6. Optical characteristics

Parameter	Specification
Transmitter	
Data rate	53.125 ±100 ppm GBd
Modulation format	PAM4
Wavelength QBOL8040C0EN1	1311.03 / 1311.43 / 1311.83 nm
Wavelength QBOL7040C0EN1	1308.74 / 1309.14 / 1309.54 nm
Wavelength QBOL6040C0EN1	1306.45 / 1306.85 / 1307.25 nm
Wavelength QBOL5040C0EN1	1304.18 / 1304.58 / 1304.98 nm
Wavelength QBOL4040C0EN1	1301.91 / 1302.31 / 1302.71 nm
Wavelength QBOL3040C0EN1	1299.65 / 1300.05 / 1300.45 nm
Wavelength QBOL2040C0EN1	1297.40 / 1297.80 / 1298.20 nm
Wavelength QBOL1040C0EN1	1295.16 / 1295.56 / 1295.96 nm
Side-mode suppression ratio	30 dB
Average launch power	1.7 to 7.1 dBm
OMAouter, TDECQ <1.4 dB	3.5 to 7.9 dBm
OMAouter, TDECQ >1.4 dB	2.1 + TDECQ to 7.9 dBm
TDECQ	3.9 dB
TECQ	3.9 dB
|TDECQ-TECQ|	2.7 dB max
Extinction ratio	5.0 dB

Parameter	Specification
Optical return loss tolerance	15.6 dB
Transmitter reflectance	-26 dB
Average launch power TX off	-15 dBm
RIN15.6OMA	-136 dB/Hz
Receiver	
Data rate	53.125 ±100 ppm GBd
Modulation format	PAM4
Lane wavelength	1295.04 to 1311.96 nm
Damage threshold	-2.4 dBm
Average receive power	-15.7 to -3 dBm
Receive power OMAouter	-2.6 dBm
Receiver reflectance	-26 dB
Receiver sensitivity OMAouter	Max(-13.5, TECQ-14.9) dBm
Stressed receiver sensitivity OMAouter	-11.3 dBm max
LOS assert	-30 to -19.5 dBm
LOS de-assert	-16.5 dBm
LOS hysteresis	0.5 dB
Stressed eye closure for PAM4 (SECQ)	3.9 dB

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-L40-DOxx	QSFP28, 100GbE, O-Band DWDM; 40km, 18dB, SM, LC

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