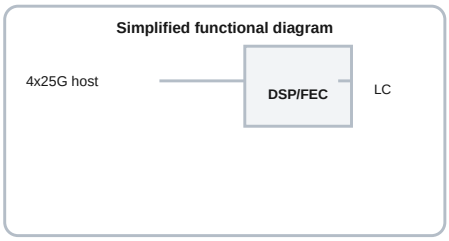
# QSFP28-DR-100G

## QSFP28, 100GbE-DR, Single Lambda, 500m

**1310nm, 3dB, SM, LC**

## 1. Product overview

Single-lambda 100GBASE-DR QSFP28 transceiver for 500 m single-mode links. A DSP gearbox converts 4x25 Gb/s NRZ host data to a single PAM4 optical channel around 1310 nm, with integrated retiming and FEC functions.




## 2. Key features

- QSFP28 MSA compliant
- 53.125 Gbaud support
- IEEE 802.3cd 100GBASE-DR compliant
- Up to 500 m on SMF with FEC
- 4x25G OIF CEI-28G-VSR host interface
- LC duplex connector; maximum power feature states 4 W

## 3. Applications

- Data Center Interconnect
- 100G Ethernet
- Enterprise networking

## 4. Technical data

| Parameter | Value | Parameter | Value |
|---|---|---|---|
| Technology | 100GBASE-DR PAM4 | Media | SMF, duplex LC |
| Reach | 500 m | Wavelength | 1304.5-1317.5 nm |
| Host | 4x25.78125 Gb/s NRZ | Optical | 53.125 GBd PAM4 |
| Budget | 3 dB | Power | 4 W feature / 4.5 W table |

## 5. Recommended operating conditions

| Parameter | Specification |
|---|---|
| Operating case temperature | 0°C to +70°C |
| Supply voltage | 3.135 / 3.3 / 3.465 V |
| Electrical data rate / lane | 25.78125 Gb/s |
| Optical data rate | 53.125 GBd |

# QSFP28-DR-100G

## 6. Optical characteristics

| Parameter | Specification |
|---|---|
| **Transmitter** | |
| Center wavelength | 1304.5 to 1317.5 nm |
| Side-mode suppression ratio | 30 dB |
| Average launch power | -2.4 to +4 dBm |
| OMAouter | -0.3 to +4.2 dBm |
| Launch power in OMAouter minus TDECQ | -1.3 dBm |
| TDECQ | 2.5 dB |
| Extinction ratio | 5 dB |
| RIN15.5OMA | -136 dB/Hz |
| Optical return loss tolerance | 15.5 dB |
| Transmitter reflectance | -26 dB |
| Average launch power TX off | -15 dBm |
| **Receiver** | |
| Center wavelength | 1304.5 to 1317.5 nm |
| Damage threshold | +6.5 dBm |
| Average receive power | -5.4 to +4 dBm |
| Receive power OMAouter | +4.2 dBm max |
| Receiver sensitivity OMAouter | -4.4 dBm @ BER=2.4x10^-4 |
| Stressed receiver sensitivity OMAouter | -1.9 dBm |
| Receiver reflectance | -26 dB |
| LOS assert | -30 dBm |
| LOS de-assert | -15 dBm |
| LOS hysteresis | 0.5 dB |
| Stressed eye closure for PAM4 (SECQ) | 2.5 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-DR | QSFP28, 100GbE-DR, Single Lambda, 500m; 1310nm, 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.

GLOBALfiber makes no warranties or representations, expressed or implied, relative to the information contained in this document.
The information is subject to change without notice.