

PASSPORT DATA SHEET

100G QSFP28



Champion ONE's 100G QSFP28 optical transceivers offer direct compatibility with your existing switches and routers. This form factor offers the lowest power consumption and highest port density among all 100G options. Digital diagnostics are available via a MDIO interface, per the QSFP28 MSA.

*Champion ONE **Passport** transceivers are programmed for universal compatibility across multiple OEM platforms. This open methodology reduces costs and unlocks operational simplicity by reducing sparing costs.*

Technical Specifications

STANDARDS AND REGULATORY COMPLIANCE

RoHS compliant
 QSFP28 MSA (multi-source agreement)
 CWDM4 MSA
 4WDM MSA

PROTOCOLS AND DATA RATES

100G Ethernet (103.125 Gbps)

DIMENSIONS

LxWxH (mm): 72 (122 incl. pull ring) x 18.4 x 8.5

CONNECTOR

MPO12 receptacle (SR4)
 MPO 8° angled (PSMIR4 – MPO-to-LC breakout cables available)
 LC connector (CWDM4, CWDM4-Lite, 4WDM-10 (CWDM4-10),
 CLR4, LR4, LR4-Lite, ER4-Lite, and 4WDM-40)

WARRANTY

All feature a limited lifetime warranty

NOTES

Includes MDIO digital diagnostics

C1 Part Number	Wavelength (nm)	Fiber Type	Rated Distance	Temperature Range (°C)	Description	Avg. Launch Power per Lane (min/max) (dBm)	Avg. Rx Power per Lane (min/max) (dBm)	Max Power Consumption (W)
SINGLE RATE (100GBASE ETHERNET)								
100GQSFP28E-SR4	850 (4x25Gb/s)	MMF	70m (OM3) ¹ 100m (OM4) ¹	0 to 70	100GBase-SR4 QSFP28, 70m/100m, MMF MPO connector	-8.4 / 2.4	-10.3 / 2.4	3.5
QSFP28-CWDM4L-C1	1264.5-1277.5 1284.5-1297.5 1304.5-1317.5 1324.5-1337.5	SMF	500m	15 to 55	100GBase-CWDM4-Lite QSFP28, 500m SMF, LC/UPC connector	-6.5 / 2.5	-11.5 / 2.5	3.5
100GQSFP28E-PSMIR4	1310	SMF	2km	0 to 70	100GBase-PSMIR4 QSFP28, 2km SMF MPO 8° angled connector	-5.5 / 2.0	-10.2 / 2.0	3.5
100GQSFP28E-LR4L	1294.53-1296.59 1299.02-1301.09 1303.54-1305.63 1308.09-1310.19	SMF	2km	0 to 70	Single-Rate 100GBase-LR4 Lite QSFP28 2km SMF LC/UPC connector	-6.0 / 4.5	-10.0 / 4.5	4.0
100GQSFP28E-CW4	1264.5-1277.5 1284.5-1297.5 1304.5-1317.5 1324.5-1337.5	SMF	2km ²	0 to 70	Single-Rate 100GBase-CWDM4 QSFP28 2km (w/ FEC) SMF LC/ UPC connector	-6.5 / 2.5	-10 / 2.5	3.5

C1 Part Number	Wavelength (nm)	Fiber Type	Rated Distance	Temperature Range (°C)	Description	Avg. Launch Power per Lane (min/max) (dBm)	Avg. Rx Power per Lane (min/max) (dBm)	Max Power Consumption (W)
SINGLE RATE (100GBASE ETHERNET)								
100QSFP28E-4W10 ⁴	1264.5-1277.5 1284.5-1297.5 1304.5-1317.5 1324.5-1337.5	SMF	10km ²	0 to 70	Single-Rate 100GBase-4WDM10 (CWDM4-10) QSFP28 10km (w/FEC) SMF LC/UPC connector	-6.5 / 2.5	-12.8 ³ / 2.5	3.5
100QSFP28E-LR4(-H)	1294.53-1296.59 1299.02-1301.09 1303.54-1305.63 1308.09-1310.19	SMF	10km	0 to 70 (-40 to 85)	Single-Rate 100GBase-LR4 QSFP28 10km SMF LC/UPC connector	-4.3 / 4.5	-10.6 / 4.5	4.5
100QSFP28E-LR4S ⁵	1294.53-1296.59 1299.02-1301.09 1303.54-1305.63 1308.09-1310.19	SMF	10km	0 to 70	Single-Rate 100GBase-LR4 QSFP28 10km SMF LC/UPC connector	-4.3 / 4.5	-10.6 / 4.5	4.0
100QSFP28E-ER4L	1294.53-1296.59 1299.02-1301.09 1303.54-1305.63 1308.09-1310.19	SMF	40km ²	0 to 70	Single-Rate 100GBase-ER4 QSFP28 40km (w/FEC), SMF LC connector, C-Temp	-2.9 / 4.5	-20.9 / -4.9 (40km) -12.65 / -4.9 (25km)	4.5
100QSFP28E-4W40	1294.53-1296.59 1299.02-1301.09 1303.54-1305.63 1308.09-1310.19	SMF	40km ²	0 to 70	Single-Rate 100GBASE-4WDM40 QSFP28 40km (w/FEC), SMF LC connector, C-Temp	-2.5 / 6.5	-20.5 / -3.5	5.0
100QSFP28E-ZR4	1294.53-1296.59 1299.02-1301.09 1303.54-1305.63 1308.09-1310.19	SMF	80km ²	0 to 70	Single-Rate 100GBase-ZR4 QSFP28 80km w/FEC (40km w/o FEC) 1310nm SMF LC, C-Temp	2.0 / 6.5	-28 / -5	5.0
MULTI-RATE (100GBASE ETHERNET/OTN OTU4)								
100QSFP28M-LR4	1294.53-1296.59 1299.02-1301.09 1303.54-1305.63 1308.09-1310.19	SMF	10km	0 to 70	Multi-Rate 100GBASE-LR4/OTU4 QSFP28 10km SMF LC connector, C-Temp	100GBASE-LR4: -4.3 / 4.5 OTU4: -0.6 / 4.0	100GBASE-LR4: -10.6 / 4.5 OTU4: -8.4 / 4.0	4.5
100QSFP28M-ER4L	1294.53-1296.59 1299.02-1301.09 1303.54-1305.63 1308.09-1310.19	SMF	40km ²	0 to 70	Multi-Rate 100GBASE-ER4/OTU4 QSFP28 40km (w/FEC) SMF LC connector, C-Temp	100GBASE-LR4: -2.5 / 6.5 OTU4: 0.6 / 5.1	100GBASE-LR4: -20.5 / -3.5 OTU4: -17.4 / -4.9	4.5
100QSFP28M-4W40	1294.53-1296.59 1299.02-1301.09 1303.54-1305.63 1308.09-1310.19	SMF	40km ²	0 to 70	Multi-Rate 100GBASE-4WDM40/OTU4 QSFP28 40km/FEC SMF LC connector, C-Temp	100GBASE-4WDM40: -2.5 / 6.5 OTU4: 0.6 / 5.1	100GBASE-4WDM40: -20.5 / -3.5 OTU4: -18.9 / -4.9	5.0
SINGLE LAMBDA 100G ETHERNET								
100QSFP28E-DR1	1310	SMF	500m	0 to 70	100G QSFP28 DR1, 1x106.25Gb/S PAM4, 1310nm SMF LC connector, C-Temp, 500m, single Lambda	-2.9 / 4.0	-5.9 / 4.0	4.5
100QSFP28E-FR1	1310	SMF	2km	0 to 70	100G QSFP28 FR1, 1x106.25Gb/S PAM4, 1310nm SMF LC connector, C-Temp, 2km, single Lambda	-2.4 / 4.0	-6.4 / 4.5	4.5
100QSFP28E-LR1	1310	SMF	10km	0 to 70	100G QSFP28 LR1, 1x106.25Gb/S PAM4, 1310nm SMF LC connector, C-Temp, 10km, single Lambda	-1.4 / 4.5	-7.7 / 4.5	4.5

1. Requires FEC on the host to support maximum distance, per 100GBASE-SR4.
2. Requires FEC on the host to support maximum distance, per 100GBASE-CWDM4, 100GBASE-4WDM, etc.
3. Min. is informative (BER = 5×10^{-5} , PRBS = $2^{31} - 1$).
4. Previously 100QSFP28E-ECW4.
5. Fully interoperable with 100QSFP28E-LR4.

Accessories

CFP2-TO-QSFP28 ADAPTER

Champion ONE provides a CFP2-to-QSFP adapter, CON-CFP2-QSFP28, which converts a 100G CFP2 port into a 100G QSFP28 port. This simple plug-and-play product gives customers the flexibility of using 100G QSFP28 modules in the 100G CFP2 interface port of a legacy switch.

FEATURES:

- **C1 Part Number: CON-CFP2-QSFP28**
- CAUI-4 Electrical Interface: 4 lanes @25.78G per lane
- MDIO, I2C support
- Compliant to CFP2 MSA
- ROHS-6 compliant
- C-Temp (0 to 70° C)



*QSFP28 transceivers sold separately.

Cable Ordering Guide

In addition to a full line of 100G QSFP28 transceivers, Champion ONE also offers breakout cables, which can be customized to your particular application according to the ordering scheme listed below.

PART NUMBER SCHEME:

FIBER-MPOT-8CC-LLM-FM

T	MPO Connector Type
M	Male
F	Female

CC	Connector Type
FC	FC connector
LC	LC connector
SC	SC connector
ST	ST connector

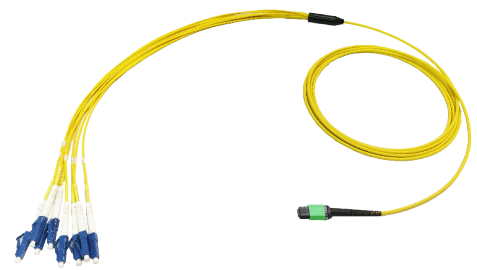
LL	Cable Length
01	1m
03	3m
05	5m
07	7m

Other Custom Distances Available.
Contact your Champion ONE sales representative for assistance.

F	Fiber Type
S	Single Mode
M	Multi Mode



FIBER-MPOM-8LC-03M-SM



FIBER-MPOF-8LC-03M-SM