

100G QSFP28 ZR4 80km

100G Eth, QSFP28, ZR4, 80km, LC, 1310nm, SM

CPQ-CE-ZR-CDF02

OVERVIEW

The CPQ-CE-ZR-CDF02 is a high-performance QSFP28 transceiver designed for 100 Gigabit Ethernet applications. It utilizes four LAN WDM lanes for both transmitting and receiving. Each lane operates at 25.78Gbps, providing an aggregate full duplex data rate of 103.12Gbps for high-speed transport networks and data center interconnects.

The transceiver supports optical transmission distances up to 80km on single mode fiber when operated with host enabled RS-FEC. It is fully compliant with the QSFP28 Multi-Source Agreement (MSA) and features Digital Diagnostics Monitoring (DDM), allowing real-time monitoring of temperature, voltage, and optical power levels via an I2C interface.

The module operates from a single 3.3V supply and is optimized for energy efficiency with a maximum power consumption of 5W. It is an ideal solution for 100GBASE-ZR4 links, long-haul point-to-point connectivity, and high-density telecommunications equipment.

KEY SPECIFICATIONS

- 100G QSFP28 transceiver with duplex LC connector
- Four lane LAN WDM transmitters and high-sensitivity receivers
- Supports 25.78Gbps per lane for 103.12Gbps aggregate data rate
- Up to 80km transmission distance over SMF with host FEC
- Maximum power consumption 5W
- Operating temperature: Commercial (0°C to +70°C)
- Fully compliant with QSFP28 MSA and SFF-8636 standards

TECHNICAL DATA

Parameter	Value	Parameter	Value
Form Factor	QSFP28	Transmitter Data:	
Transmission Media	SM (LC)	Tx Power, total	+13dBm
Typical Reach	80km	Tx Power	+2 to +7dBm ³⁾
Nominal Wavelength	1295.56nm 1300.05nm 1304.58nm 1309.14nm	Tx Wavelength	1294.53 -1296.59nm 1299.02-1301.09nm 1303.54-1305.63nm 1308.59-1310.19nm
Data Rate Support	103.125Gbps ¹⁾ 25.78Gbps ²⁾	Extinction Ratio	≥8dB
Protocol Support	100GbE	Receiver Data:	
Power Consumption	< 5.0W	Rx Power, min	-29dBm ^{3) 4)}
Operating Temperature	0°C to 70°C	Rx Overload, max	-5dBm ^{3) 4)}
Storage Temperature	-40°C to +85°C	Rx Wavelength	1294.53 -1296.59nm 1299.02-1301.09nm 1303.54-1305.63nm 1308.59-1310.19nm
DDM	Yes	LOS Assert	-40dBm
		LOS De-assert	-31.5dBm
		LOS Hysteresis	0.5dB

¹⁾ Aggregated line rate 100GbE

²⁾ Line rate per 25.78Gbps lane

³⁾ Average power, per lane

⁴⁾ Per 25.78Gbps lane. Measured with PRBS31 (2³¹-1) @ BER 5E-5

Safety/Regulatory Compliance

- Class 1 laser safe
- RoHS Compliance

ABSOLUTE MAX RATING

Exceeding these limits can cause permanent damage to the transceiver

Parameter	Value	Parameter	Value
Supply Voltage	-0.5V to 3.75V	Relative Humidity	85%
Storage Temp	-40°C to 85°C	Max Rx Optical Power	-5dBm per lane

ORDERING INFORMATION

Ordering Code	Description
CPQ-CE-ZR-CDF02	100G QSFP28, ZR4, 80km, LC, 1310nm, SM, 0 to 70C

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