

Transceiver

100G QSFP28 CWDM4 (2km)



Key Features

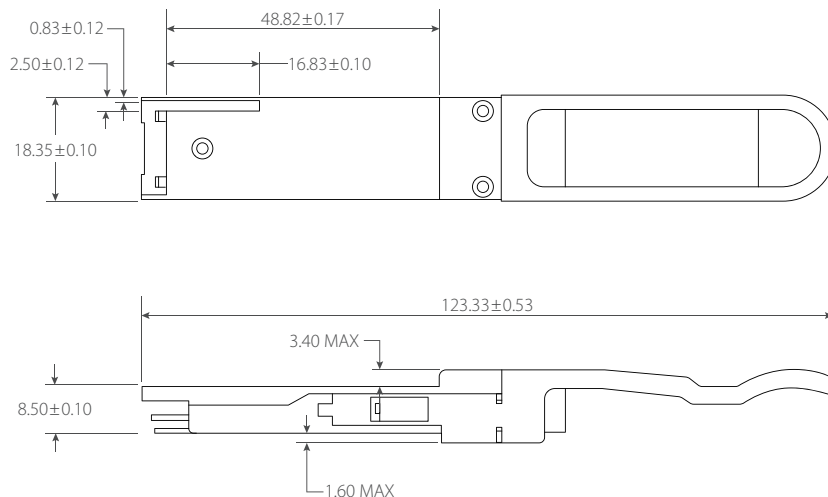
- Hot pluggable QSFP28 form factor
- Two-wire common management interface (SFF-8636 MSA)
- CAUI-4 compliant Electrical interface (4 x 25.78125 Gbps)
- Transmission distance up to 2km
- Low power consumption: <3.5W
- Commercial temperature operating up to 70°C
- Duplex LC receptacle for Optical connectivity
- Pull tab based latching mechanism (MSA Compliant Green color)
- Remote firmware upgrade capability using I2C interface
- Provides capability to place CDRs in bypass mode for 40G operation
- Programmable output de-emphasis and input CTLE

Applications

- 100GbE Data Center Switching and Routing interconnect
- Client interface connectivity for Routing and Transport Networks
- 100GBASE Ethernet Links
- Local Area Network (LAN) and Wide Area Network (WAN)



Dimensions



Unit: mm

Absolute Maximum Ratings

	Min.	Max.
Storage Temperature	-40°C	+85°C
Operating Case Temperature	0°C	+70°C
Relative Humidity (Non-condensing)	0%	85%
Supply Voltage	-0.5V	+3.6V
Receiver Damage Threshold, Per Lane	+3.5dBm	

Electrical Characteristics

	Min.	Typ.	Max.
Supply Voltage	3.135V		3.465V
Supply Current (@3.3V)			1.09A
Module Total Power			3.5W
Programmable Differential Data Output Per Lane (mVppd) ¹	300mV	800mV	930mV
Programmable Output De-emphasis ²	0dB		7.5dB
Data Output Rise/ Fall Time (20/80%)			20psec
Differential Data Input Per Lane (Mvppd)	200mV		1000mV
Programmable Ctle Peaking ³	1dB		10dB

Note 1: Default factory setting is 800 mV
 Note 2: Default factory setting is 0 dB
 Note 3: Default factory setting is 1 dB

Optical Transmit & Receive Characteristics

	Value
Signaling speed, each lane	25.78125 ± 100 ppm GBd
Center wavelength range, each Lane	1264.5 to 1277.5/ 1284.5 to 1297.5/ 1304.5 to 1317.5/ 1324.5 to 1337.5 nm
Side-mode suppression ration (SMSR), min	30.0 dB
Total average launch power (max)	8.5 dBm
Average launch power, each lane (max)	2.5 dBm
Average launch power, each lane (min)	-6.5 dBm
Optical Modulation Amplitude (OMA), each lane (max)	2.5 dBm
Optical Modulation Amplitude (OMA), each lane (min)	-4.0 dBm
Transmitter and dispersion penalty (TDP), each lane (max)	3.0 dB
Launch power in OMA – TDP (min)	-5.0 dBm
Average launch power in OFF transmitter, each lane (max)	-30.0 dBm
Extinction ratio (min)	3.5 dB
Transmitter and Dispersion Eye Closure (TDEC, max)	3 dB
Vertical Eye Closure Penalty (VECP, max)	3.5 dB
Tx Power Monitor Accuracy	±1.5 dB
Transmitter reflectance (max)	-12.0 dB
Optical return loss tolerance (max)	20.0 dB
Receiver damage threshold, each lane (min)	3.5 dBm
Average receive power, each lane (max)	2.5 dBm
Average receive power, each lane (min)	-11.5 dBm
Receive power, each lane (OMA) (max)	2.5 dBm
Receiver sensitivity (OMA), each lane (max) at 2.1 x 10 ⁻⁵ BER	-10.0 dBm
Stressed receiver sensitivity (OMA), each lane (max)	-7.3 dBm
Rx Power Monitor Accuracy	±1.5 dB
Receiver reflectance (max)	-26.0 dB

FEC Requirements

The OptiWorks 100Gbps CWDM4 Optical link is specified to operate at a bit error ratio (BER) of 2.1 x 10⁻⁵. The host system is required to enable RS FEC in accordance with Clause 91 of IEEE 802.3bj.

