100Gb/s QSFP28 EDR PSM4 1310nm 500m SMF Optical Transceiver

Features

- Up to 100Gb/s data rate
- Up to 500m link length over single mode fiber at 100Gb/s
- Selectable retiming
- SFF-8665 compliant
- 3.3V power supply
- QSFP28 Power Class 4 (< 3.5W)
- Class 1 Laser Safety
- Hot pluggable
- RoHS, UL & TÜV compliant
- 100G-PSM4 compliant
- SFF-8636 compliant I2C Management Interface with DDM functions

Applications

- 100GEthernet
- Qualified for InfiniBand EDR end-to-end systems

Description

QSFP-100G-PSM4H transceiver is a parallel, single mode, 1310nm, 4-channel (PSM4), pluggable, QSFP28 optical transceiver designed for use in 100GbE Ethernet applications. It is also qualified for use in InfiniBand EDR end-to-end systems. This module incorporates state-of-the-art uncooled DFB laser and integrated circuit technology in order to provide high performance. The transceiver operates over 4-lane, parallel, single mode fiber (SMF) using a nominal wavelength of 1310nm, and is SFF-8665 compliant.

The transceiver has a standard QSFP28 connector on the electrical side towards the host system. The optical interface is composed of four optical channels/fibers in each direction and is intended for a parallel single-mode optical cable via a standard MPO connector. Each channel/fiber operates at signaling rates up to 25.78125GBd. Rigorous production testing ensures the best out-of-the-box installation experience, performance and durability.

The QSFP-100G-PSM4H transceiver has Digital Diagnostic Monitoring (DDM) functions for supply voltage, temperature, laser bias current, optical transmit and receive levels with associated warning and alarm thresholds.

Adjustment of the Tx input equalizer, Rx output amplitude/emphasis, and (de)selection of retiming are controlled via control registers defined in the SFF-8636 standard.

Absolute Maximum Ratings

Table1-Absolute Maximum Ratings

Parameter	Symbol	Conditions	Min.	Max.	Units
Storage Temperature	Ts		-40	+85	°C
Storage Relative Humidity	RH	Non condensing	0	85	%
Supply Voltage # 3.3	Vcc		0	3.6	V

Operational Information

Table2-Operational Information

Parameter	Symbol	Min.	Typical	Max.	Units
Operating Case Temperature	Tc	-5		70	°C
Supply Voltage	Vcc	3.13	3.3	3.47	V
Supply Current	Icc			1000	mA
Data Rate	Vcc		100		Gb/s
Link Distance	D	2		500	m

Transmitter Electrical Specifications

Table3-Transmitter Electrical Specifications

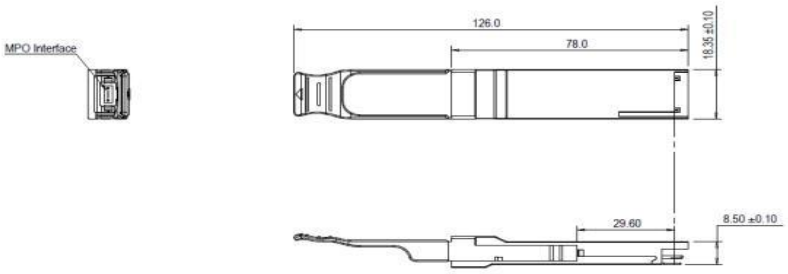
Parameter	Symbols	Conditions	Min.	Typical	Max.	Units
Differential Input Impedance	Rdi			100		Ohm
High speed Differential Input Voltage (CML)	Vcml_di	AC-coupled, peak to peak	0.2		1.0	V
Low speed Input Voltage – Low (LVCOMS)	Vlvcmos_il		-0.3		Vcc*0.3	V
Low speed Input Voltage – High (LVCOMS)	Vlvcmos_ih		Vcc*0.7		Vcc+0.5	V
Low speed Input Voltage – Low (LVTTL)	Vlvttl_il		-0.3		0.8	V
Low speed Input Voltage – High (LVTTL)	Vlvttl_ih		2		Vcc+0.3	V

Receiver Electrical Specifications

Table4-Receiver Electrical Specifications

Parameter	Symbols	Conditions	Min.	Typical	Max.	Units
Differential Output Impedance	Rdo			100		Ohm
High speed Differential Output Voltage (CML)	Vcml_do	AC-coupled, peak to peak	0.3		0.8	V
Low speed Output Voltage – Low (LVCOMS)	Vlvcmos_ol		0		0.4	V
Low speed Output Voltage – High (LVCOMS)	Vlvcmos_oh		Vcc-0.5		Vcc+0.3	V
Low speed Output Voltage – Low (LVTTL)	Vlvttl_ol		0		0.4	V
Low speed Output Voltage – High (LVTTL)	Vlvttl_oh		Vcc-0.5		Vcc+0.3	V

Mechanical Schematics



Warnings

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD).

A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Laser Safety

Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

Further Information:

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Disclaimer

1. We are committed to continuous product improvement and feature upgrades, and the contents contained in this manual are subject to change without notice.

2. Nothing herein should be construed as constituting an additional warranty.

3. NADDOD assumes no responsibility for the use or reliability of equipment or software not provided by NADDOD.