

4L-QDD2GLR4-L10

QSFP DD 200GBASE-LR4, 1310nm, SM, FEC, DDM, LC, 10Km



Applications

- Compliant with 200GBASE-LR4 Ethernet
- Up to 212.5 Gbps aggregate Bit Rate
- Datacenter backbones
- High-speed servers
- SAN, Routers, Hubs, Load Balancer
- High-performance Computing Clusters
- Other optical links

Features

- QSFP-DD 200G Optical Transceiver
- QSFP-DD MSA Compliant
- Up to 10Km links on SMF with FEC
- DFB laser transmitter
- Duplex LC receptacles
- 4 LWDM lanes MUX/DEMUX design
- Digital Diagnostic Monitoring
- Maximum power consumption 10.8W
- RoHS-6 and Lead Free
- Operating temperature: 0°C ~ +70°C

Description

The 4L-QDD2GLR4-L10 is a QSFP-DD four channel full duplex transceiver module for singlemode (SMF) 200 Gigabit optical data communications.

This modules are compatible with most switch/router/server brands and designed to operate with single mode fiber (SMF) and Duplex LC connectors, using 4 channels of 50Gb/s LAN-WDM with up to 10km reach.

Quick access to other products:

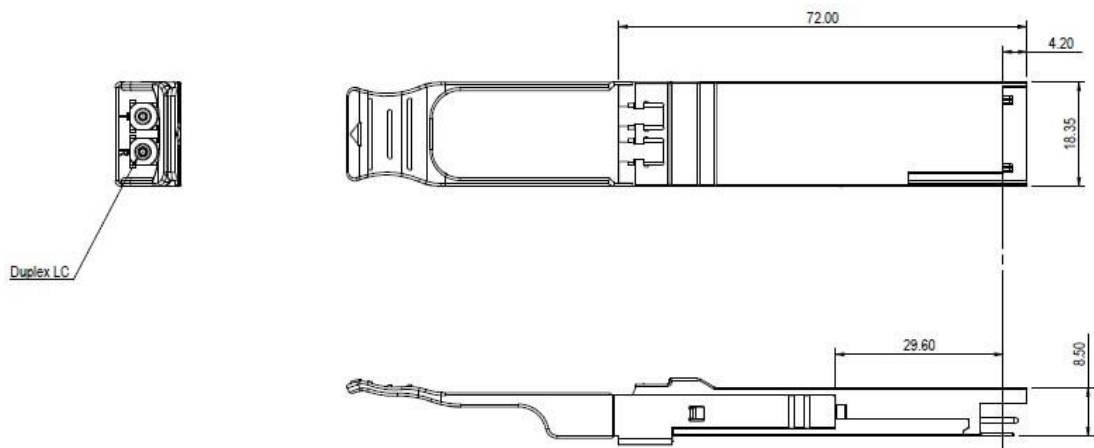
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General Specifications – Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max
Max Link Length	L _{max}			10Km on SMF
Supply Voltage	V _{cc}	-0.5v		3.6v
Power Consumption			10.8W	
Storage Temperature	T _s	-40°C		85°C
Case Operating Temperature	T _{OP}	10°C		60°C
Relative Humidity	RH	0		85%
Receiver Damage Threshold, per Lane	pR _{dmg}	3.5		
Bit Rate (all lanes)	BR			212.5Gb/s
Bit Error Ratio – pre FEC	BER			2.4x10 ⁻⁴
Bit Error Ratio – post FEC	BER			1x10 ⁻¹²

Mechanical Specifications



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Optical Specifications - Transmitter

Parameter	Symbol	Min	Typ	Max	Unit
Signaling Speed per lane (NRZ)		53.125±100ppm			Gb/s
Optical Data Rate (PAM4)		26.5625			GBaud
Center Wavelength		1304.5	1310	1317.5	nm
Total Average Launch Power	Pt	10.7			dBm
Average Launch Power	pTX	-3.4	5.3		dBm
Outer Optical Modulation Amplitude	POMA	-0.4	5.1		dB
Transmitter and Dispersion Eye Closure for PAM4	TDECQ		3.2		dB
Launch Power in OMA minus TDECQ	ER	-1.8 (ER>4.5dB)			dB
		-1.7 (ER<4.5dB)			
Side Mode Suppression Ratio	SMSR	30			dB
Relative Intensity Noise	RIN			-132	dB/Hz
Transmitter Reflectance	Rt			-26	dB
Optical Return Loss Tolerance	TOL			15.6	dB
Average Launch Power of OFF Transmitter	Poff			-30	dBm
LOS Assert Level	LOSA	50			mV
LOS Deassert Level	LOSD	100			mV

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Optical Specifications – Receiver

Parameter	Symbol	Min	Typ	Max	Unit
Signaling Speed per lane			53.125±100ppm		Gb/s
Optical Center Wavelength (L0 Lane)	λ_c	1264.5	1271	1277.5	nm
Optical Center Wavelength (L1 Lane)	λ_c	1284.5	1291	1297.5	nm
Optical Center Wavelength (L2 Lane)	λ_c	1304.5	1311	1317.5	nm
Optical Center Wavelength (L3 Lane)	λ_c	1324.5	1331	1337.5	nm
Average Receive Power, each lane	PRX	-9.7		5.3	dBm
Receiver Power (OMA), each Lane				5.1	dBm
Receiver Sensitivity (OMA), each Lane				-7.2	dBm
Stressed Receiver Sensivity				-5.4	dBm
Damage Threshold, each Lane		6.3			dBm
LOS Assert	LOS _A	-25.7			dBm
LOS De-Assert	LOS _D			-11.7	dBm
LOS Hysteresis	LOS _H	0.5			dB

Electrical Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Power Consumption				10.8W	W
Supply Voltage		-0.5v		3.6v	V

Electrical Specifications - Transmitter

Parameter	Symbol	Min	Typ	Max	Unit
Signaling Rate per lane		53.125±100ppm			Gb/s
Differential data input swing	V _{IN_PP}	900			mV
Transmit disable voltage	V _D	V _{CC} -1.3		V _{CC}	V
Transmit enable voltage	V _{EN}	V _{EE}		V _{EE} +0.8	V

Electrical Specifications - Receiver

Parameter	Symbol	Min	Typ	Max	Unit
Signaling Rate per lane		53.125±100ppm			Gb/s
Differential data output swing	V _{OUT_PP}			900	mV
Data output rise time (20%-80%)	t _r		12		ps
Data output fall time (20%-80%)	t _f		12		ps
LOS Fault	LOS _A	V _{CC} -1.3		V _{CC_HOST}	V
LOS Normal	LOS _D	V _{EE}		V _{EE} +0.5	V

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Ordering Information

Part Number	Description
4L-Q562GFR4-L02	QSFP56 200GBASE-FR4, 1310nm, SM, DDM, FEC, Duplex LC, 2Km
4L-QDD2GLR4-L10	QSFP DD 200GBASE-LR4, 1310nm, SM, DDM, FEC, Duplex LC, 10Km
4L-QDD2GER4-L40	QSFP DD 200GBASE-ER4, 1310nm, SM, DDM, FEC, Duplex LC, 40Km

Note

This modules have been tested by 4LAN on equipment like Cisco, Juniper, Dell, HP, Mikrotik, Huawei, and other brands. The equipment brand must be informed before shipping the order, so the transceivers are reprogrammed to the corresponding brand.

Contact Information

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