

4L-Q100LR4-20

QSFP28 100GBASE-LR4, 1310nm, SM, DDM, LC, 20Km



Applications

- Compliant with 100GBASE-LR4 Ethernet
- Up to 103.1 Gbps Bit Rate
- Datacenter backbones
- High-speed servers
- 4 x 25GBASE Ethernet
- SAN, Routers, Hubs, Load Balancer
- High-performance Computing Clusters
- Other optical links

Features

- QSFP28 100G Optical Transceiver
- QSFP28 MSA Compliant
- Up to 20Km links on SMF
- DFB laser transmitter
- Duplex LC receptacles
- 4x 25Gb/s LAN-WDM
- Digital Diagnostic Monitoring
- RoHS-6 and Lead Free
- Operating temperature: 0°C ~ +70°C

Description

The 4L-Q100LR4-20 is a QSFP28 four channel full duplex transceiver module for singlemode (SMF) 100GBASE-LR4 / 100 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 25Gb/s LAN-WDM with up to 20km reach.

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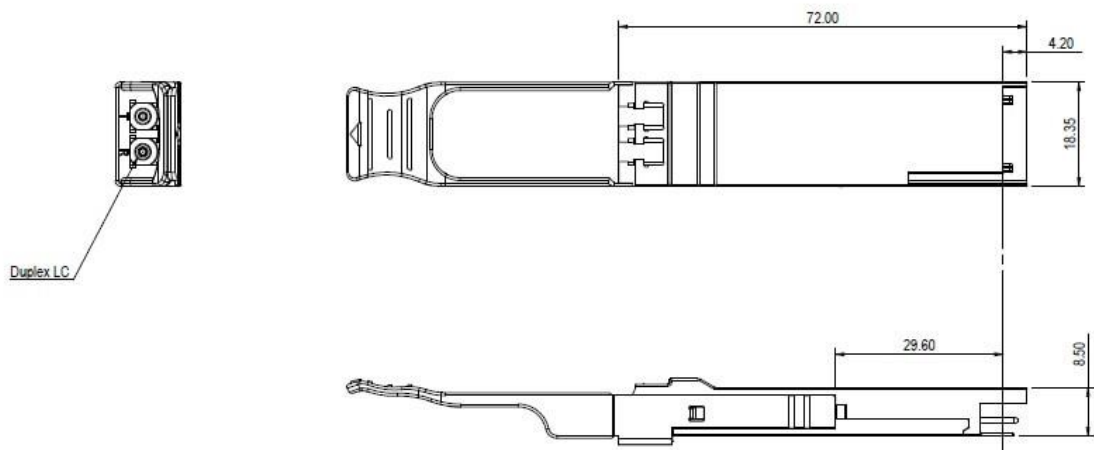
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General Specifications – Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max
Max Link Length	L _{max}			20Km on SMF
Supply Voltage	V _{cc}	-0.5		3.6
Power Dissipation				4W
Storage Temperature	T _s	-40		85
Case Operating Temperature	T _{OP}	-5		75
Relative Humidity	RH	15		85
Receiver Damage Threshold, per Lane	pR _{dmg}	3.4		
Bit Rate (all wavelngths)	BR			103.1Gb/s
Bit Error Ratio – pre FEC	BER			10 ⁻¹²

Mechanical Specifications



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Optical Specifications - Transmitter

Parameter	Symbol	Min	Typ	Max	Unit
Signaling Speed per lane		25.78125±100ppm			Gb/s
Total Output Optical Power	P_T			10.5	dBm
Average Launch Power (Each Lane)	P_{TX}	-1.0		+4.5	dBm
Optical Center Wavelength (L0 Lane)	λ_C	1294.53	1295.56	1296.59	nm
Optical Center Wavelength (L1 Lane)	λ_C	1299.02	1300.06	1301.09	nm
Optical Center Wavelength (L2 Lane)	λ_C	1303.54	1304.59	1305.63	nm
Optical Center Wavelength (L3 Lane)	λ_C	1308.09	1309.14	1310.19	nm
Optical Modulation Amplitude(Each Lane)	OMA	-1.3		4.5	dB
Extinction Ratio	ER	4			dB
Side Mode Suppression Ratio	SMSR	30			dB
Relative Intensity Noise	RIN			-130	dB/Hz
Transmitter Dispersion Penalty	TDP			2.2	dB
Optical Return Loss Tolerance				20	dB
Transmitter Eye Mask		Compliant with IEEE 802.3ba			

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Signaling Speed per lane		25.78125±100ppm			Gb/s
Optical Center Wavelength (L0 Lane)	λ_c	1294.53	1295.56	1296.59	nm
Optical Center Wavelength (L1 Lane)	λ_c	1299.02	1300.06	1301.09	nm
Optical Center Wavelength (L2 Lane)	λ_c	1303.54	1304.59	1305.63	nm
Optical Center Wavelength (L3 Lane)	λ_c	1308.09	1309.14	1310.19	nm
Optical Input Power, each lane	PRX	-12		-4.5	dBm
Receiver Sensitivity (OMA), each Lane	RX_SEN1			-8.6	dBm
Receiver Overload		4.5			dBm
LOS Assert	LOS _A		-18		dBm
LOS De-Assert	LOS _D		-16		dBm
LOS Hysteresis	LOS _H	1.5			dB

Electrical Specifications - Transmitter

Parameter	Symbol	Min	Typ	Max	Unit
Signaling Rate per lane		25.78125±100ppm			Gb/s
Differential data input swing	v _{IN_PP}	100		1100	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		25.78125±100ppm			Gb/s
Differential data output swing	v _{OUT_PP}	200		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

Ordering Information

Part Number	Description
4L-Q100SR4-M100	QSFP28 100GBASE-SR4, 850nm, MM, DDM, MPO/MTP, 100m
4L-Q100BSR4-100	QSFP28 100GBASE-SR4, 850/900nm, BiDi MM, DDM, LC, 150m
4L-Q100CW4-02	QSFP28 100GBASE-CWDM4, LC, DDM, SM 2km.
4L-Q100PLR4-M02	QSFP28 100GBASE-PLR4, 1310nm, SM, DDM, MPO/MTP, 2km
4L-Q100LR4-10	QSFP28 100GBASE-LR4, 1310nm, SM, DDM, Duplex LC, 10Km
4L-Q100LR4-20	QSFP28 100GBASE-LR4, 1310nm, SM, DDM, Duplex LC, 20Km
4L-Q100ER4-40	QSFP28 100GGBASE-ER4, 1310nm, SM, DDM, Duplex LC, 40Km
4L-Q100ZR4-70	QSFP28 100GGBASE-ZR4, 1310nm, SM, DDM, Duplex LC, 70Km
4L-Q100ZR4-80	QSFP28 100GGBASE-ZR4, 1310nm, SM, DDM, Duplex LC, 80Km

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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