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QSFP28 - 100G - BiDi

100Gbps QSFP28 BiDi LR 10km DDM Transceiver

Description:

OPTOKON **100G QSFP28 BiDi LR** is designed for 10km optical communication applications. It is intended for the service with single mode fiber in 100Gb/s high speed data communications.

The optical signals are multiplexed to a single-mode fiber through commercial standard LC connector. The module incorporates one channel optical signal on 1271nm and 1331nm wavelength. Compliant with the QSFP28 MSA. Digital diagnostics functions are available via the I2C interface, as specified by the QSFP28 MSA.

Features:

- Supports 100GBASE-LR BiDi
- Lane signaling rate 106.25Gb/s with PAM4, 111.8Gb/s compatible
- Up to 10 km transmission on SMF
- EML Laser and PIN receiver
- 4x25.78Gb/s with NRZ electrical interface (CAUI-4)
- Support KP4 FEC inside the module
- High speed I/O electrical interface
- I2C interface with integrated Digital Diagnostic Monitoring
- QSFP28 MSA package with simplex LC connector
- Single +3.3 V power supply
- Support HW TX_DIS and RX_LOS for Telecom application
- Maximum power consumption 4W
- Case operating temperature: 0°C to 70°C

Safety and regulatory compliance and standards:

- Compliant to IEEE 802.3cu, SFF-8636 & SFF-8679
- Complies with EU Directive 2015/863/EU

Applications:

- 100G Ethernet, 100GBASE-LR1 BIDI
- Data centers, Enterprise networks, Telecommunications

Recommended operating conditions:

Parameter	*Min*	*Typ*	*Max*	*Unit*	*Note*
Case Operating Temperature	0	–	+70	°C	
Relative Humidity	–	–	85	%	
Power Supply Voltage	3.13	3.3	3.47	V	
Power Supply Current	–	–	1.2	A	
Maximum Power Dissipation	–	–	4	W	
Data Rate(optical)	–	106.25	111.8	Gbps	
Transmission Distance	–	–	10	km	Over 9/125um SMF

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.

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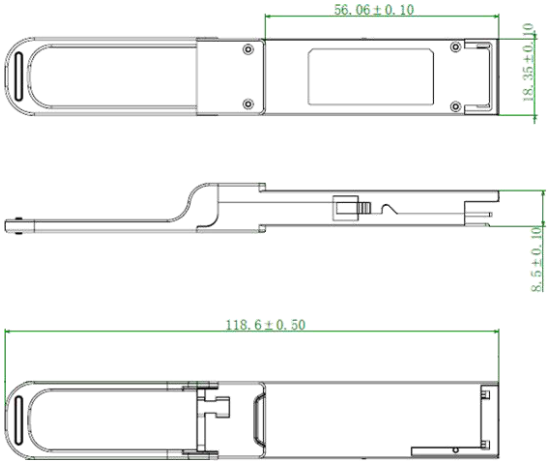
Optical Characteristics:

Parameter	*Symbol*	*Min.*	*Typical*	*Max.*	*Unit*	*Notes*
Transmitter						
Center Wavelength	CW	1264.5	1271	1277.5	nm	
		1324.5	1331	1337.5	nm	
Average Launch Power	PTX	1.4		4.5	dBm	1
Average Output Power (Laser Turn off)	Pout-off	–	–	-30	dBm	
Outer Optical Modulation Amplitude	OMA	0.7	–	4.7	dBm	1
Launch power in OMA minus TDECQ(min)	OMA-TDECQ	-0.7	–	–	dBm	ER≧4.5 dB
		-0.6	–	–	dBm	
Transmitter and dispersion eye closure for PAM4 (TDECQ) (max)	TDECQ	–	–	3.4	dBm	
Side Mode Suppression Ratio	SMSR	30	–	–	dB	
Extinction Ratio	ER	3.5	–	–	dB	
Optical Return Loss Tolerance	ORLT	–	–	15.6	dB	
Receiver						
Center Wavelength	CW	1324.5	1331	1337.5	nm	
		1264.5	1271	1277.5	nm	
Damage threshold	Pdamage	5.5	–	–	dBm	2
Average Rx Power	PRx	-7.7	–	-4.5	dBm	3
Receive power_OMAouter	POMA	–	–	-4.7	dBm	
Loss Assert	LosA	-26	–		dBm	
Los De-Assert	LosDA	–	–	-10	dBm	
Los Hysteresis	LosH	0.5	–	–	dB	

Notes: *1) The optical power is launched into SMF*
2) The receiver shall be able to tolerate, without damage, continuous exposure to an optical input signal having this average power level. The receiverdoes not have to operate correctly at this input power.
3) Average receive power, each lane (min) is informative and not the principal indicator of signal strength.

Dimension:



Ordering code:

Code	Description
S100G-W1271/1331-QP28-LR-10-XX	100 Gbps (TX 1271nm/RX 1331nm), QSFP28 housing, 10 km, 0°C to +70°C, DDM, simplex LC connector
S100G-W1331/1271-QP28-LR-10-XX	100 Gbps (TX 1331nm/RX 1271nm), QSFP28 housing, 10 km, 0°C to +70°C, DDM, simplex LC connector

Remark: Full compatibility is conditioned by exact specification of the end device; compatibility of older SFPs is not guaranteed with new devices or updated SW.