

## DATA SHEET

# 100G QSFP28 LR4 TRANSCEIVER

## DESCRIPTION

The 100G QSFP28 LR4 transceiver is designed for use in 100 Gigabit Ethernet links over single mode fiber.

The optical transmitter is integrated with four lasers with center wavelengths of 1295.56 nm, 1300.05 nm, 1304.58 nm and 1309.14 nm. This module contains 4-lane optical transmitter, 4-lane optical receiver and module management block, including 2 wire serial interface. The optical signals are multiplexed to a single-mode fiber through an industry standard LC connector.

A serial EEPROM in the transceiver allows the user to access transceiver monitoring and configuration data via the 2-wire QSFP Management Interface. This interface uses a single address, A0h, with a memory map divided into a lower and upper area. Basic digital diagnostic (DD) data is held in the lower area while specific data are held in a series of tables in the high memory area.



## KEY FEATURES

- Up to 10km transmission on SMF
- Operating case temperature: 0~70°C
- Maximum Power consumption: 4.5W
- 4xLAN-WDM lanes MUX/DEMUX design
- Supports 25.78Gbps Data rate per wavelength
- Built-in CDR on both TX and RX
- DDM function implemented
- Hot pluggable QSFP28 form factor
- Duplex LC receptacles
- Single +3.3V power supply

## APPLICATIONS

- 100GBASE-LR4 100G Ethernet
- Telecom networking
- Data Center Interconnect
- Enterprise networking

## COMPLIANCES

- Compliant with QSFP28MSA
- Compliant with IEEE 802.3ba 100GBASE-LR4
- Compliant with SFF-8636/8661/ 8679
- Compliant with RoHS-6

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### ENVIRONMENTAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Unit
Operation Temperature	0	+25	+70	°C
Storage Temperature	-40	-----	+85	°C
Operation Humidity*	10	-----	85	%
Storage Humidity	10	-----	85	%

(\*) not condensing

### OPERATING SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Unit
Supply Voltage	3.135	+3.3	+3.465	V
Power Dissipation (Each lane)			4.5	W
Total Data Rate		103.125		Gb/s
Data Rate (Each lane)		25.78125		Gb/s
Transmission Distance			10	Km

### OPTICAL SPECIFICATIONS

#### TRANSMITTER

Parameter	Min.	Typ.	Max.	Unit
Bit Rate (each Lane)	25.78125 +/- 100ppm			Gb/s
Line Wavelength (CH0)	1294.53		1296.59	nm
Line Wavelength (CH1)	1299.02		1301.09	nm
Line Wavelength (CH2)	1303.54		1305.63	nm
Line Wavelength (CH3)	1308.09		1310.19	nm
Side Mode Suppression Ratio (SMSR)	30			dB
Average Launch Power (each lane)	-4.3		4.5	dBm
Transmitter OMA (each lane)	1.3		4.5	dBm
Extinction Ratio (ER)	4			dB
Average launch power (OFF transmitter, each lane)			-30	dBm
Transmitter eye mask definition (X1, X2, X3, Y1, Y2, Y3)	(0.31, 0.4, 0.45, 0.34, 0.38, 0.4)			
Transmitter reflectance			-12	dB
Input differential impedance (each line)		100		Ω

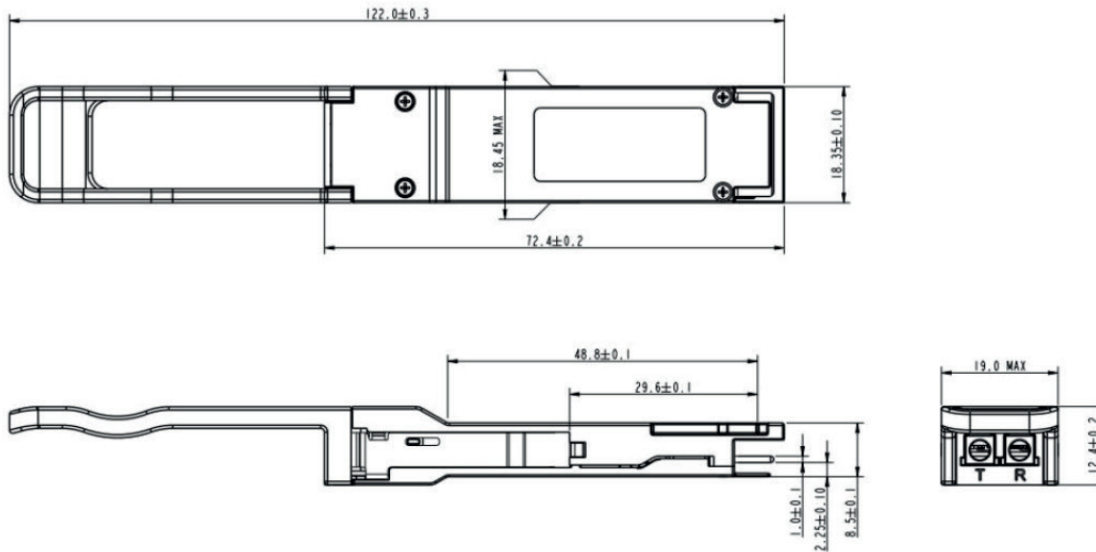
#### RECEIVER

Parameter	Min.	Typ.	Max.	Unit
Bit Rate (each Lane)	25.78125 +/- 100ppm			Gb/s
Line Wavelength (CH0)	1294.53		1296.59	nm
Line Wavelength (CH1)	1299.02		1301.09	nm
Line Wavelength (CH2)	1303.54		1305.63	nm
Line Wavelength (CH3)	1308.09		1310.19	nm
Average RX Power (each lane)	-10.6		4.5	dBm
Receiver Sensitivity (unstressed, each lane)			-8.6	dBm
Receiver Sensitivity (stressed, each lane)			-6.8	dBm
LOSA	-30			dBm
LOSD			-11	dBm
Hysteresis	0.5			dB

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DIMENSIONS

Unit: mm



ORDERING INFORMATION

Jabil Part Number	Package	Rate	Reach	Other info
JPQ81CLRLCC000LR4	QSFP28	100G	10Km	DDM/RoHS

For additional information, visit [jabil.com/photonics](http://jabil.com/photonics)