



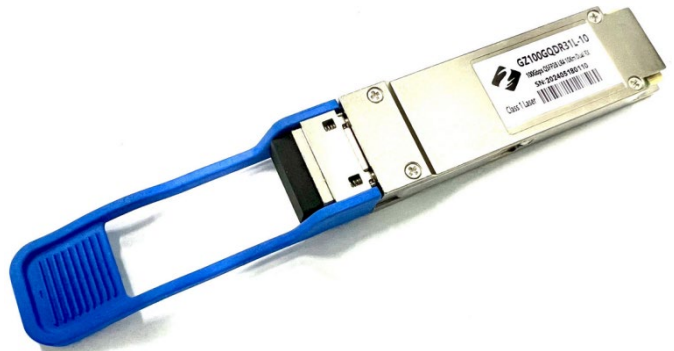
## GZ100GQDR31L-10

### 100Gbps QSFP28 1310nm 10Km Dual Receivers

### Optical Transceiver

#### FEATURES

- ✓ 4 Independent LAN-WDM channels
- ✓ Dual Receivers
- ✓ Low Power Consumption <3.5W
- ✓ Wide Operating Temperature(0°C~70°C)
- ✓ Maximum link length of 10km via Single Mode Fiber (SMF)



#### APPLICATIONS

- ✓ 100GBASE LR4 100G Ethernet
- ✓ High performance computing, data com and sever data links
- ✓ High speed access

#### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Conditions	Min.	Max.	Unit
Storage Temperature	T <sub>Storage</sub>		-40	+85	°C
Relative Humidity	RH		0	+85	%

#### RECOMMENDED OPERATING CONDITIONS (T=25°C, unless noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Case Temperature	T <sub>c</sub>		0		70	°C
Power Supply Voltage	V <sub>cc</sub>		3.135	3.3	3.465	V
Signaling Rate each Channel				25.78125		Gbps
Supply Noise Rejection			---	---	100	mV
Receiver Differential Data Output			---	100		Ohm
Operating Distance	D		---	---	10	km

#### ELECTRICAL CHARACTERISTICS (T=25°C, unless noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Power Consumption					3.5	W
Supply Current	I <sub>cc</sub>				1000	mA

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**RECEIVER CHARACTERISTICS** (T=25°C, unless noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Signaling rate, each lane (range)	GBb			25.78125		GBb
Center Wavelength	$\lambda_0$		1294.53		1296.59	nm
	$\lambda_1$		1299.02		1301.09	nm
	$\lambda_2$		1303.54		1305.63	nm
	$\lambda_3$		1308.09		1310.19	nm
Damage threshold			5.5			dBm
Average power at receiver input, each lane			-10.6		4.5	dBm
Receive power, each lane (OMA)					4.5	dBm
Return Loss	RL		-26			dB
Receiver sensitivity (OMA)	S <sub>OMA</sub>	BER@10e-12			-10	dBm
LOS Assert	LOS <sub>A</sub>				-10.8	dBm
LOS De-Assert	LOS <sub>D</sub>		-24			dBm
LOS Hysteresis			0.5			dB

## Digital Diagnostic Monitor Accuracy

The following characteristics are defined over recommended operating conditions

Parameter	Accuracy	Unit
Internally measured transceiver temperature	+/-3	deg.C
Internally measured transceiver supply voltage	+/-3	%
Measured Tx bias current	+/-10	%
Measured Tx output power	+/-3	dB
Measured Rx received average optical power	+/-3	dB

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## PIN DESCRIPTION

PIN	Logic	Symbol	Name/Description	Note
1		GND	Ground	
2	CML-I	Rx2n-2	Receiver Non-Inverted Data Output of channel 2	
3	CML-I	Rx2p-2	Receiver Inverted Data Output of channel 2	
4		GND	Ground	
5	CML-I	Rx4n-2	Receiver Non-Inverted Data Output of channel 2	
6	CML-I	Rx4p-2	Receiver Inverted Data Output of channel 2	
7		GND	Ground	
8	LVTTL-I	ModSelL	Module Select	
9	LVTTL-I	ResetL	Module Reset	
10		VccRx	+ 3.3V Power Supply Receiver	
11	LVC MOS-I/O	SCL	2-Wire Serial Interface Clock	
12	LVC MOS-I/O	SDA	2-Wire Serial Interface Data	
13		GND	Ground	
14	CML-O	Rx3p-1	Receiver Non-Inverted Data Output of channel 1	
15	CML-O	Rx3n-1	Receiver Inverted Data Output of channel 1	
16		GND	Ground	
17	CML-O	Rx1p-1	Receiver Non-Inverted Data Output of channel 1	
18	CML-O	Rx1n-1	Receiver Inverted Data Output of channel 1	
19		GND	Ground	
20		GND	Ground	
21	CML-O	Rx2n-1	Receiver Inverted Data Output of channel 1	
22	CML-O	Rx2p-1	Receiver Non-Inverted Data Output of channel 1	
23		GND	Ground	
24	CML-O	Rx4n-1	Receiver Inverted Data Output of channel 1	
25	CML-O	Rx4p-1	Receiver Non-Inverted Data Output of channel 1	
26		GND	Ground	
27	LVTTL-O	ModPrsL	Module Present	
28	LVTTL-O	IntL	Interrupt	
29		RccTx	+3.3 V Power Supply transmitter	
30		Rcc1	+3.3 V Power Supply	
31	LVTTL-I	LPMODE	Low Power Mode	
32		GND	Ground	
33	CML-I	Rx3p-2	Receiver Non-Inverted Data Output of channel 2	
34	CML-I	Rx3n-2	Receiver Inverted Data Output of channel 2	
35		GND	Ground	

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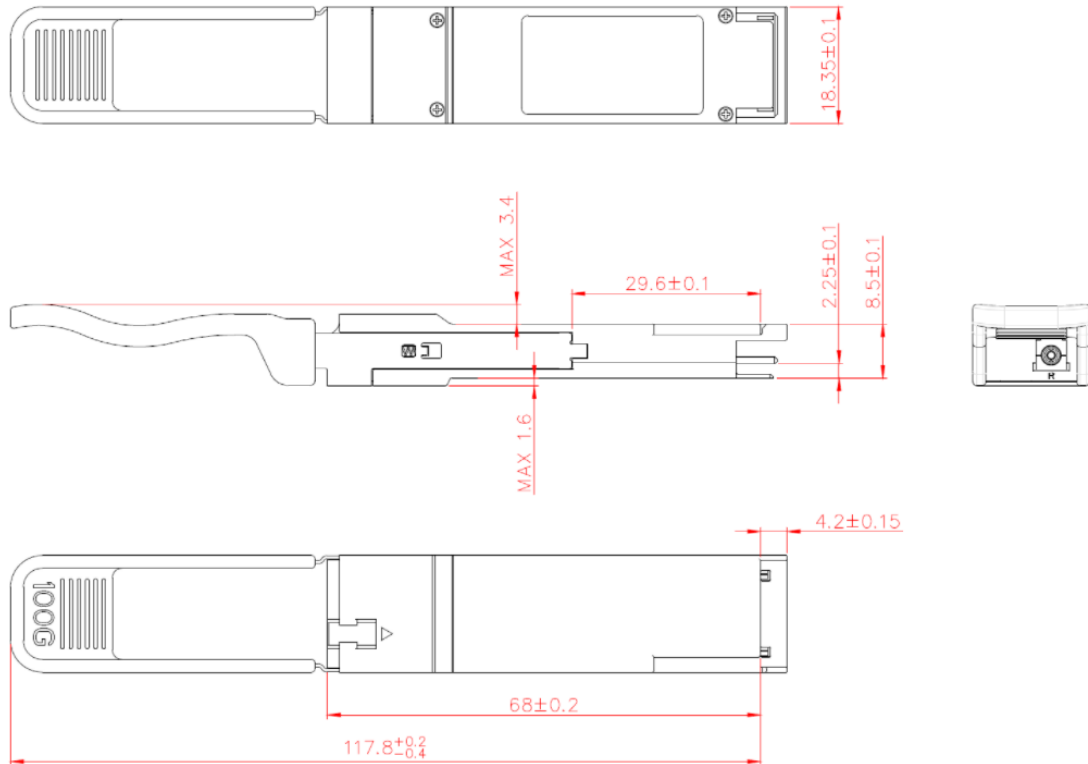
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36	CML-I	Rx1p-2	Receiver Non-Inverted Data Output of channel 2	
37	CML-I	Rx1n-2	Receiver Inverted Data Output of channel 2	
38		GND	Ground	

## OUTLINE DIMENSIONS



## Ordering information

Part. No	Specifications								
	Rate Gb/s	Tx	Tx WL nm	Po dBm	Rx	Sen. dBm	Temp °C	Reach km	Other
GZ100GQDR31L-10	103.1	/	/	/	PIN/TIA	<-10.6	0~70	10	LC

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## 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.

### Notice:

The information provided on this page contains the product target specifications which are subject to change without notice.

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