



GZ100GQDR31L-10

100Gbps SFP28 1310nm 10Km Dual Receivers

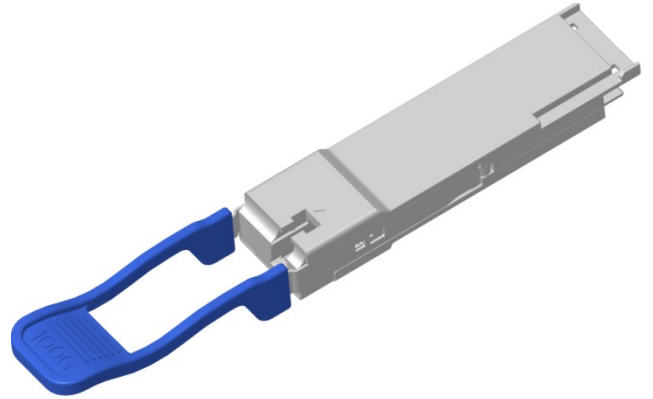
Optical Transceiver

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 _{Storage} | | -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 _c | | 0 | | 70 | °C |
| Power Supply Voltage | V _{cc} | | 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 _{cc} | | | | 1000 | mA |

Shenzhen Guangzhi Communication Technology Co., LTD.

Production Address: 5th floor, Building 2, Peninsula Industrial Park, No. 3, Gangbian Tian Road, East Lake High-tech Zone, Wuhan Hubei Province, China.

Contact: Mr. Yang Tel.: +86-18607555895 E-mail: yanghan@optst.com

Website: www.optst.com

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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 | λ_0 | | 1294.53 | | 1296.59 | nm |
| | λ_1 | | 1299.02 | | 1301.09 | nm |
| | λ_2 | | 1303.54 | | 1305.63 | nm |
| | λ_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 _{OMA} | BER@10e-12 | | | -10 | dBm |
| LOS Assert | LOS _A | | | | -10.8 | dBm |
| LOS De-Assert | LOS _D | | -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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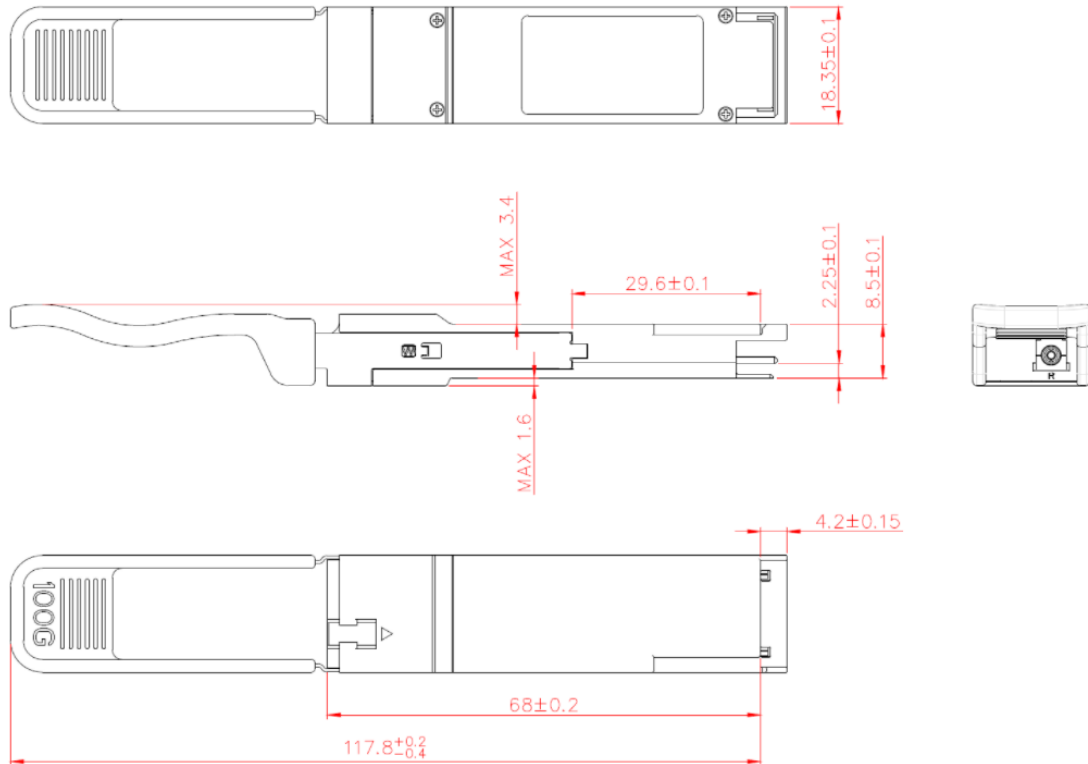
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| | | | | |
|----|-------|--------|--|--|
| 36 | CML-I | Rx1p-2 | Receiver Non-Inverted Data Output of channel 2 | |
| 37 | CML-I | Rx1n-2 | Receiver Inverted Data Output of channel 2 | |
| 38 | | GND | Ground | |

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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