DATA SHEET

Transceivers
# 100G QSFP28 Bidi LR1
CQB-904A07

## Properties

- Protocol 100G Ethernet
- Single Lambda, Inb. FEC
- PAM4 Modulation
- Data rate 103.125 Gbps
- Reach up to 10km
- Wavelength 1270/1330 or 1330/1270nm
- LC/PC simplex connector
- Singlemode fiber
- Temp. range 0 ... 70°C
- Link budget at least 7 dB



| General data | |
|---|---|
| Form factor | QSFP28 |
| Product image | Actual product may differ from the images shown. Colours, design, and details can vary. |
| Protocol | 100G Ethernet (no host FEC) |
| Media type | Singlemode |
| Connector | LC/PC simplex |
| Modulation Format | PAM4 |
| Built-in FEC | KP4-FEC |
| CDR | Double |
| Operation temperature | 0 °C ... 70 °C |
| Supply voltage typical | 3.13 V ... 3.47 V |
| Supply Current | < 1360 mA |
| Power consumption | < 4.5 W |
| Digital Diagnostic Management (DDM) | Yes |
| Laser hazard level | 1 |

| Absolute Maximum Ratings | |
|---|---|
| Max. supply voltage range | 0 V ... 3.6 V |
| Max. Storage Temperature Range | -40 °C ... 85 °C |
| Max. relative humidity range | 5 % ... 85 % |

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| Transmitter Specifications | |
|---|---|
| Laser Type | DML |
| Operating channels | 1271.00nm (1264.5 to 1277.5nm)<br>1331.00nm (1324.5 to 1337.5nm) |
| Grid | None |
| Average launch power per lane | -1.4 dBm ... 4.5 dBm |
| Outer Optical Modulation Amplitude (OMA) | 0.7 dBm ... 4.7 dBm |
| Extinction Ratio | > 3.5 dB |
| Side Mode Suppression | > 30 dB |
| Supported Data rate | 103.125 Gbps |
| OMA - TDECQ | > -0.7 dBm (ER ≥ 4.5 dB)<br>> -0.6 dBm (ER < 4.5 dB) |

| Receiver Specifications | |
|---|---|
| Receiver Type | PIN |
| Operating channels | 1331.00nm (1324.5 to 1337.5nm)<br>1271.00nm (1264.5 to 1277.5nm) |
| Receiver Overload | > 5.5 dBm |
| Receiver Sensitivity (OMA) | < -6.1 dBm |
| Stressed receiver sensitivity (OMA) | < -4.1 dBm |
| Bit Error Rate at Receiver | 1E-12 (post FEC) |
| Receiver LOS De-Assert | < -10 dBm |
| Receiver LOS Assert | > -26 dBm |
| Receiver LOS Hysteresis | > 0.5 |
| Supported Data rate | 103.125 Gbps |
| Average receive power per lane | -7.7 dBm ... 4.5 dBm |
| Maximum Receiver Power (Damage Threshold) | > 4.7 dBm |

| Ordering Information Table | | |
|---|---|---|
| Order Code | Compatibility code explanation | Wavelength code explanation |
| CQB-904A07xxxx-ww | "xxxx" is an alphanumerical string, describing the compatibility. "0000" means no special coding to ensure compatibility with a special switch type. | -23: 1270nm Laser / 1330nm Receiver<br>-32: 1330nm Laser / 1270nm Receiver |

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