DATA SHEET

# Transceivers
# **100G QSFP28 Bidi ER1 lite**
CQB-903A15

## Properties

- Protocol 100G Ethernet
- Single Lambda, Inb. FEC
- PAM4 Modulation
- Data rate 103.125 Gbps
- Reach up to 30km
- Wavelength 1304/1309 or 1309/1304nm
- LC/PC simplex connector
- Singlemode fiber
- Temp. range 0 ... 70°C
- Link budget at least 15 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 | < 1300 mA |
| Digital Diagnostic Management (DDM) | Yes |
| Laser hazard level | 1 |

| Absolute Maximum Ratings | |
|---|---|
| Max. supply voltage range | -0.5 V ... 4 V |
| Max. Storage Temperature Range | -40 °C ... 85 °C |
| Max. relative humidity range | 5 % ... 85 % |

| Transmitter Specifications | |
|---|---|
| Laser Type | EML |
| Operating channels | 1304.58nm (1303.54 to 1305.63nm) |
| | 1309.14nm (1308.09 to 1310.19nm) |
| Grid | None |

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| Transmitter Specifications | |
|---|---|
| Average launch power per lane | 0 dBm ... 5.6 dBm |
| Extinction Ratio | > 6 dB |
| Side Mode Suppression | > 30 dB |
| Supported Data rate | 103.125 Gbps |
| Transmitter and dispersion eye closure for PAM4 (TDECQ) | < 3.9 dB |
| OMA - TDECQ | 3.0 to 6.4 dBm (TDEQ < 1.4 dB) |
| | 1.6 dBm + TDEQ to 6.4 dBm |

| Receiver Specifications | |
|---|---|
| Receiver Type | APD |
| Operating channels | 1304.58nm (1303.54 to 1305.63nm) |
| | 1309.14nm (1308.09 to 1310.19nm) |
| Receiver Overload | > -2.4 dBm |
| Receiver Sensitivity (OMA) | < -12.5 dBm |
| Receiver LOS De-Assert | < -15 dBm |
| Receiver LOS Assert | > -26 dBm |
| Receiver LOS Hysteresis | > 0.5 dB |
| Supported Data rate | 103.125 Gbps |
| Average receive power per lane | -14.7 dBm ... -3.4 dBm |
| Maximum Receiver Power (Damage Threshold) | > -2.6 dBm |

| Ordering Information Table | | |
|---|---|---|
| Order Code | Compatibility code explanation | Wavelength code explanation |
| CQB-903A15xxxx-ww | "xxxx" is an alphanumerical string, describing the compatibility. "0000" means no special coding to ensure compatibility with a special switch type. | -ww -04: 1304.58nm Laser / 1309.19nm Receiver |
| | | -ww -09: 1309.19nm Laser / 1304.58nm Receiver |

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