DATA SHEET

Transceivers
100G QSFP28 Bidi ER1
CQB-902A18

Properties

- Protocol 100G Ethernet
- Single Lambda, Inb. FEC
- PAM4 Modulation
- Data rate 103.125 Gbps
- Reach up to 40km
- Wavelength 1304/1309 or 1309/1304nm
- LC/PC simplex connector
- Singlemode fiber
- Temp. range 0 ... 70°C
- Link budget at least 18 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 V ... 3.47 V
Supply Current	< 1300 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	EML
Operating channels	1304.58nm (1303.54 to 1305.63nm)
	1309.14nm (1308.09 to 1310.19nm)
Grid	None
Average launch power per lane	1.7 dBm ... 7.1 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	4.7 to 7.9 dBm (TDEQ < 1.4 dB)
	3.3 dBm + TDEQ to 7.9 dBm

Receiver Specifications	
Receiver Type	APD
Operating channels	1304.58nm (1303.54 to 1305.63nm)
	1309.14nm (1308.09 to 1310.19nm)
Receiver Overload	> -2.6 dBm
Receiver Sensitivity (OMA)	< -13.8 dBm
Stressed receiver sensitivity (OMA)	< -11.5 dBm
Bit Error Rate at Receiver	1E-12 (post FEC)
Receiver LOS De-Assert	< -17 dBm
Receiver LOS Assert	> -26 dBm
Receiver LOS Hysteresis	> 0.5 dB
Supported Data rate	103.125 Gbps
Average receive power per lane	-16.2 dBm ... -3.4 dBm
Maximum Receiver Power (Damage Threshold)	> -2.6 dBm

Ordering Information Table		
Order Code	Compatibility code explanation	Wavelength code explanation
CQB-902A18xxxx-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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