DATA SHEET

Transceivers
50G QSFP28 Bidi ER1
CQB-701A18

Properties

- Protocol 50G Ethernet
- Single Lambda
- PAM4 Modulation
- Data rate 53.125 Gbps
- Reach up to 40km
- Wavelength 1296/1309 or 1309/1296nm
- 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
Media type	Singlemode
Connector	LC/PC simplex
Modulation Format	PAM4
Built-in FEC	No
CDR	Double
Operation temperature	0 °C ... 70 °C
Supply voltage typical	3.135 V ... 3.465 V
Supply Current	< 1299 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	1295.56nm (1294.53 to 1296.59nm)
	1309.14nm (1308.09 to 1310.19nm)
Grid	None
Average launch power per lane	1.5 dBm ... 8 dBm
Outer Optical Modulation Amplitude (OMA)	4.5 dBm ... 7.4 dBm
Extinction Ratio	> 6 dB
Side Mode Suppression	> 30 dB
Supported Data rate	53.125 Gbps
OMA - TDECQ	> 2.0 dBm

Receiver Specifications	
Receiver Type	APD
Operating channels	1309.14nm (1308.09 to 1310.19nm)
	1295.56nm (1294.53 to 1296.59nm)
Bit Error Rate at Receiver	2.4E-4
Receiver LOS De-Assert	< -20 dBm
Receiver LOS Assert	> -30 dBm
Receiver LOS Hysteresis	> 0.5 dB
Supported Data rate	53.125 Gbps
Average receive power per lane	-15 dBm ... -3 dBm
Maximum Receiver Power (Damage Threshold)	> -2.6 dBm

Ordering Information Table		
Order Code	Compatibility code explanation	Wavelength code explanation
CQB-701A18xxxx-ww	"xxxx" is an alphanumerical string, describing the compatibility. "0000" means no special coding to ensure compatibility with a special switch type.	-29: 1295nm Laser / 1309nm Receiver
		-31: 1309nm Laser / 1295nm Receiver

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