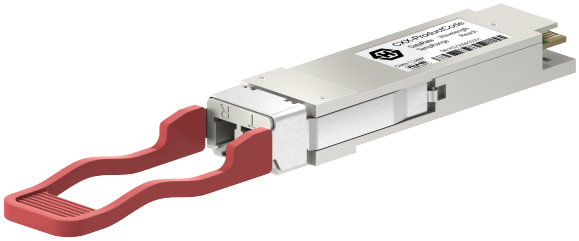
DATA SHEET

Transceivers
100G QSFP28 ER4 lite
CQS-933A16

Properties

- Multi-protocol support
- Data rate 103.125/111.809 Gbps
- Reach up to 30km
- Wavelengths 1296/1300/1304/1309nm
- LC/PC duplex connector
- Singlemode fiber
- Temp. range 0 ... 70°C
- Link budget at least 16 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, OTU4
Data rate standards	100GBASE-ER4lite
Media type	Singlemode
Connector	LC/PC duplex
Modulation Format	NRZ
Built-in FEC	No
CDR	Double
Operation temperature	0 °C ... 70 °C
Supply voltage typical	3.13 V ... 3.47 V
Supply Current	< 1515 mA
Power consumption	< 5 W
Digital Diagnostic Management (DDM)	Yes
Laser hazard level	1

Absolute Maximum Ratings	
Max. supply voltage range	-0.3 V ... 3.6 V
Max. Storage Temperature Range	-40 °C ... 85 °C
Max. relative humidity range	5 % ... 95 %

Transmitter Specifications	
Laser Type	EML
Operating channels	1295.56nm (1294.53 to 1296.59nm)
	1300.05nm (1299.02 to 1301.09nm)
	1304.58nm (1303.54 to 1305.63nm)
	1309.14nm (1308.09 to 1310.19nm)

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Transmitter Specifications	
Grid	None
Average launch power per lane	-2.5 dBm ... 6.5 dBm
Outer Optical Modulation Amplitude (OMA)	0 dBm ... 6.5 dBm
Total optical output power	< 12.5 dBm
Extinction Ratio	> 4.5 dB
Side Mode Suppression	> 30 dB
Supported Data rate	103.125 Gbps ... 111.809 Gbps

Receiver Specifications	
Receiver Type	APD
Operating channels	1295.56nm (1294.53 to 1296.59nm)
	1300.05nm (1299.02 to 1301.09nm)
	1304.58nm (1303.54 to 1305.63nm)
	1309.14nm (1308.09 to 1310.19nm)
Receiver Overload	> -3.5 dBm
Receiver Sensitivity (OMA)	< -15 dBm
Bit Error Rate at Receiver	1E-12
Maximum Optical Input Power per Lane (Overload)	-2.5 dBm
Receiver LOS De-Assert	< -22 dBm
Receiver LOS Assert	> -30 dBm
Receiver LOS Hysteresis	> 0.5 dB
Supported Data rate	103.125 Gbps ... 111.809 Gbps
Maximum Receiver Power (Damage Threshold)	> -2.5 dBm

Ordering Information Table		
Order Code	Compatibility code explanation	Wavelength code explanation
CQS-933A16xxxx-13	“xxxx” is an alphanumerical string, describing the compatibility. “0000” means no special coding to ensure compatibility with a special switch type.	-13: 1310nm

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