DATA SHEET

Transceivers
400G QSFP56-DD PAM4 DR4
CQS-102A03

Properties

- Multi-protocol support
- PAM4 Modulation
- Data rate 425 Gbps
- Reach up to 500m
- Wavelength 1310nm
- MPO/MTP-8/12 (APC) connector
- Singlemode fiber
- Temp. range 0 ... 70°C
- Link budget at least 3 dB
- Power consumption < 9 W



General data	
Form factor	QSFP56-DD
Product image	Actual product may differ from the images shown. Colours, design, and details can vary.
Protocol	400G Ethernet and 4x100G Ethernet
	Infiniband
Data rate standards	400GBASE-DR4
	4x 100GBASE-DR
Media type	Singlemode
Connector	MTP/MPO-8/12 (APC)
Modulation Format	PAM4
Built-in FEC	No
CDR	Double
Operation temperature	0 °C ... 70 °C
Supply voltage typical	3.13 V ... 3.47 V
Supply Current	< 2727 mA
Power consumption	< 9 W
Digital Diagnostic Management (DDM)	Yes
Laser hazard level	1

Absolute Maximum Ratings	
Max. supply voltage range	-0.5 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 Wavelength Range	1304.5 nm ... 1317.5nm
Grid	None
Average launch power per lane	-2.9 dBm ... 4 dBm
Outer Optical Modulation Amplitude (OMA)	-0.8 dBm ... 4.2 dBm
Extinction Ratio	> 3.5 dB
Side Mode Suppression	> 30 dB
Supported Data rate	425 Gbps
Transmitter and dispersion eye closure for PAM4 (TDECQ)	< 3.4 dB
OMA - TDECQ	-2.2

Receiver Specifications	
Receiver Type	PIN
Operating Wavelength Range	1304.5 nm ... 1317.5nm
Receiver Sensitivity (OMA)	< -4.4 dBm
Stressed receiver sensitivity (OMA)	< -1.9 dBm
Bit Error Rate at Receiver	2.4E-4
Maximum Optical Input Power per Lane (Overload)	4 dBm
Receiver LOS De-Assert	< -7.4 dBm
Receiver LOS Assert	> -15 dBm
Receiver LOS Hysteresis	> 0.5 dB
Supported Data rate	425 Gbps
Average receive power per lane	-5.9 dBm ... 4 dBm
Maximum Receiver Power (Damage Threshold)	> 5 dBm

Ordering Information Table		
Order Code	Compatibility code explanation	Wavelength code explanation
CQS-102A03xxxx-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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