

400G InfiniBand SR4 QSFP-DD 50m Transceiver CL400GQDDSR4-IB

Product Features:

- Support 100GBASE per lane in multimode fiber
- Data rate up to 425Gbps (4 x 106.25 Gbps)
- Reach up to 50m on MMF (OM4)
- 850nm VCSEL laser and PIN receiver
- High speed I/O electrical interface (400GAUI-8)
- Single MPO-12 receptacle
- Operating case temperature: 0 to +70°C
- Compliant to RoHS 6/6
- Compliant to QSFP-DD MSA and CMIS5.0

Applications

- 400G Ethernet and Infiniband
- Data center network

Functional Characteristics (Optical)

The following tables list the performance specifications for the various functional blocks of the integrated optical transceiver module.

Table 1 – Transmitter Optical Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Signaling rate, each lane	-	53.125 ± 100 ppm			GBd	
Modulation format	-	PAM4			-	
Center wavelength	λ_c	842	-	948	nm	
RMS spectral width	-	-	-	0.65	nm	1
Average launch power, each lane	AOP _L	-4.6	-	4	dBm	
Outer Optical Modulation Amplitude (OMA _{outer}), each lane	T _{OMA}	-	-	3.5	dBm	
Outer Optical Modulation Amplitude (OMA _{outer}), each lane for max(TECQ, TDECQ) ≤ 1.8 dB for 1.8 < max(TECQ, TDECQ) ≤ 4.4 dB	T _{OMA}	- -2.6 -4.4	-	-	dBm	
Transmitter and dispersion eye closure for PAM4 (TDECQ), each lane	TDECQ	-	-	4.4	dB	
Transmitter eye closure for PAM4 (TECQ), each lane	TECQ	-	-	4.4	dB	
Overshoot/undershoot	-	-	-	26	%	
Transmitter power excursion, each lane	-	-	-	2	dBm	
Extinction Ratio	ER	2.5	-	-	dB	
Transmitter transition time, each lane	-	-	-	17	ps	



Average launch power of OFF transmitter, each lane	T _{OFF}	-	-	-30	dBm	
RIN ₁₂ OMA	RIN	-	-	-131	dB/Hz	
Optical return loss tolerance	ORL	-	-	14	dB	
Encircled flux	-	≥86% at 19 nm ≤30% at 4.5 um			-	2

Table 2 – Receiver Optical Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Signaling rate, each lane	-	53.125 ± 100 ppm			GBd	
Modulation format	-	PAM4	-			
Center wavelength	λ _C	842	-	948	nm	
Damage threshold1	AOPD	5	-		dBm	
Average receive power, each lane2	AOPR	-6.3	-	4	dBm	
Receive power, each lane (OMA _{outer})	OMAR	-	-	3.5	dBm	
Receiver reflectance	RR	-	-	-15	dB	
Receiver sensitivity (OMA _{outer}), each lane for TECQ ≤ 1.8 dB for 1.8 < TECQ ≤ 4.4 dB	SOMA	-	-	- -4.4 -6.2	dBm	
Stressed receiver sensitivity (OMA _{outer}), each lane	SRS	-	-	-1.8	dBm	
Conditions of stressed receiver sensitivity test:3						
Stressed eye closure for PAM4 (SECQ)	-	-	4.4	-	dB	
OMA _{outer} of each aggressor lane	-	-	3.5	-	dBm	

Note 1: RMS spectral width is the standard deviation of the spectrum.

Note 2: Only support 33.6GHz 3 dB bandwidth of the fiber emulation filter for TDECQ measurement.

Ordering Information

Table 3 - Ordering Information

PN	Operating Temperature	Wavelength	Reach	Latch Color
CL400GQDDSR4-IB	0°C to 70°C	850nm	50m	Beige

CONTACT:

Email: sales@c-light.com <https://www.c-light.com>