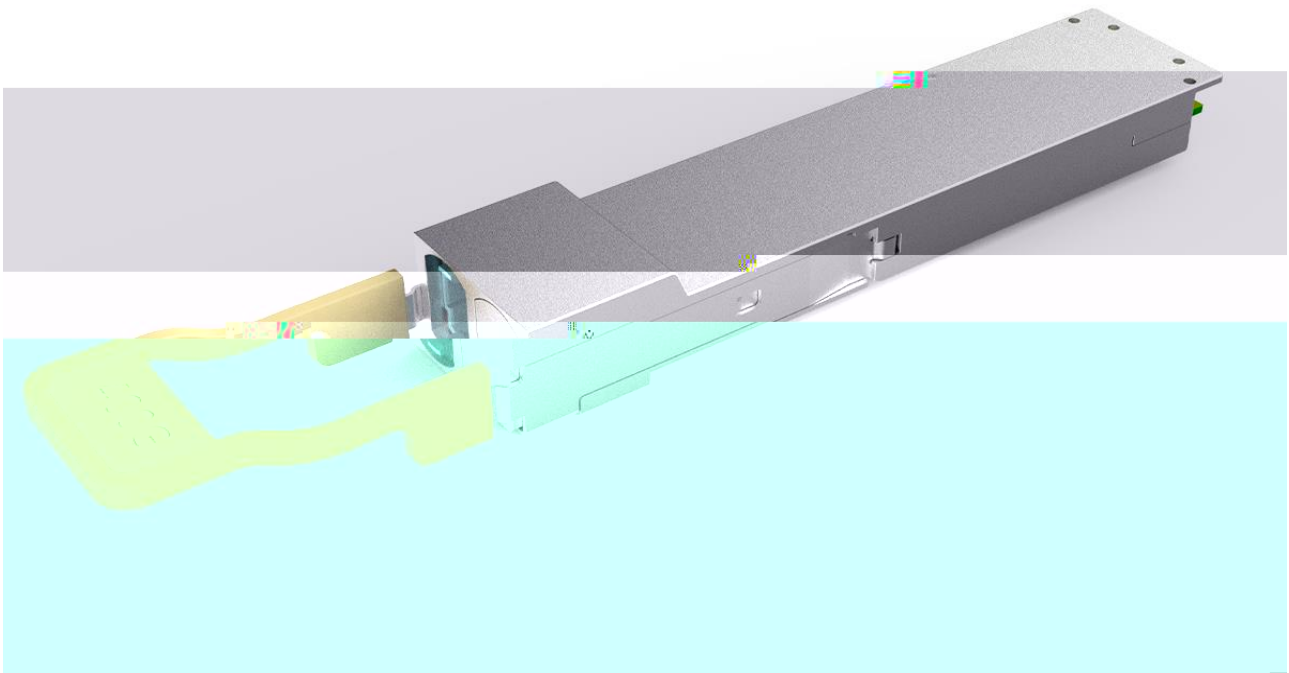


Product Datasheet

400G OSFP-RHS SR4 Transceiver



Data center & Networking Equipment
Servers/Storage Devices
High Performance Computing (HPC)
Switches/Routers
Telecom Central Offices (CO)
Test and Measurement Equipment

Hot-pluggable OSFP 400G SR4 multimode transceiver
Compliant with OSFP-RHS
Compliant with CMIS Rev 5.0 and above revision
4-channels of 100G-PAM4 electrical and optical modulation
Maximum power consumption 8.5W with 4 channels and 6.5W with 2 channels
Single MPO-12 APC receptacles
Up to 30m reach on OM3 and 50m reach on OM4
Operates as a 200Gb/s NDR200 transceiver with 2-fiber splitter ends
Case operating temperature 0°C to 70°C



°C

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the data sheet. Exposure to absolute maximum ratings will cause permanent damage and/or adversely affect device reliability.

Storage Temperature	TS	-40	-	+85	°C	
Maximum Supply Voltage	V _{CC}	-0.5	-	3.6	V	
Operating Relative Humidity	RH	5	-	95	%	No condensation
Control Input Voltage	V _I	-0.3	-	V _{CC} +0.5	V	

°C

Operating Case Temperature	T _{OPR}	0	-	70	°C	
Power Supply Voltage	V _{CC}	3.135	3.3	3.465	V	
Instantaneous peak current at hot plug	I _{CC_IP}	-	-	3600	mA	
Sustained peak current at hot plug	I _{CC_SP}	-	-	3000	mA	
Maximum Power Dissipation(400G)	P _D	-	-	8.5	W	
Maximum Power Dissipation(200G)	P _D	-	-	6.5	W	
Maximum Power Dissipation, Low Power Mode	P _{DLP}	-	-	1.5	W	
Signaling Rate per Lane	SRL	-	53.125	-	GBd	PAM4
Two Wire Serial Interface Clock Rate	-	-100	-	400	kHz	
Power Supply Noise Tolerance (10Hz - 10MHz)	-	-	-	66	mV	
Rx Differential Data Output Load	-	-	100	-	Ohm	
Operating Distance (OM3)	-	2	-	30	m	
Operating Distance (OM4)	-	2	-	50	m	



°C

Wavelength	c	844	850	863	nm	
RMS spectral width	rms			0.6	nm	
Average Launch Power, each lane	AOP _L	-4.6	-	4.0	dBm	1
Outer Optical Modulation Amplitude (OMA _{outer}), each lane	T _{OMA}	-2.6		3.5	dBm	2
Transmitter and Dispersion Eye Closure for PAM4 (TDECO), each lane	TDECO	-	-	4.4	dB	
Average Launch Power of OFF Transmitter, each lane	T _{OFF}	-	-	-30	dBm	
Extinction Ratio, each lane	ER	2.5	3.5	-	dB	
RIN ₁₄ OMA	RIN	-	-	-132	dB/Hz	
Optical Return Loss Tolerance	ORL		-	12	dB	
Transmitter Reflectance	T _R	-	-	-26	dB	3

Notes

1. Average launch power, each lane (min) is informative and not the principal indicator of signal strength.
2. Even if max (TECO, TDECO) < 1.8dB, OMA_{outer} (min) must exceed this value.
3. Transmitter reflectance is defined looking into the transmitter.

°C

Wavelength	c	842	850	863	nm	
Damage Threshold, average optical power, each lane	AOP _D	5	-	-	dBm	
Average Receive Power, each lane	AOP _R	-6.3	-	4.0	dBm	
Receive Power (OMA _{outer}), each lane	OMA _R	-	-	3.5	dBm	
Receiver Reflectance	RR	-	-	-26	dB	
Receiver Sensitivity (OMA _{outer}), each lane	S _{OMA}	-	-	-4.4	dBm	1
Stressed Receiver Sensitivity (OMA _{outer}), each lane	SRS	-	-	-1.8	dBm	2

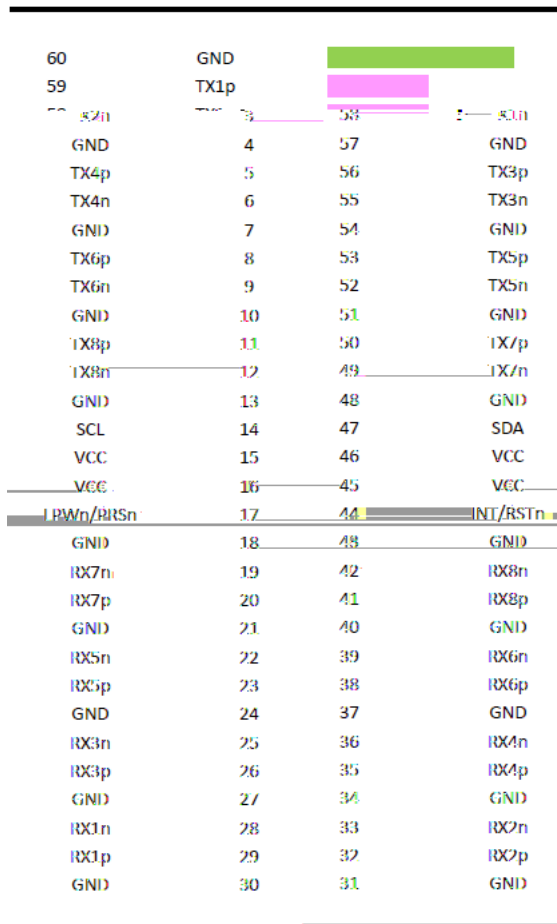


Conditions of stressed receiver sensitivity test						
Stressed eye closure for PAM4	SECQ		4.4		dB	
OMA _{outer} of each aggressor lane	OMA _{outer}		3.5		dBm	

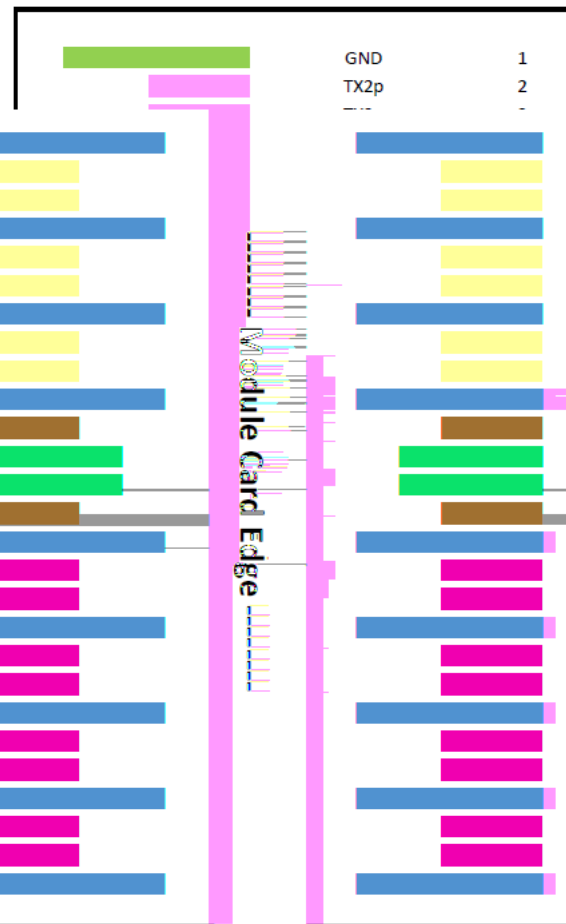
Notes

1. Receiver sensitivity (OMA_{outer}), each lane (max) is informative and is defined for a transmitter with TDECQ ≤ 1.8 dB
2. Measured with conformance test signal at TP3 for the BER = 2.4x10⁻⁴

Top Side (viewed from top)



Bottom Side (viewed from bottom)



PIN	Logic	Symbol	Name/Description
1		GND	Ground
2	CML-I	TX2p	Transmitter Data Non-Inverted
3	CML-I	TX2n	Transmitter Data Inverted



5	CML-I	TX4p	Transmitter Data Non-Inverted
6	CML-I	TX4n	Transmitter Data Inverted
7		GND	Ground
8	CML-I	TX6p	Transmitter Data Non-Inverted
9	CML-I	TX6n	Transmitter Data Inverted
10		GND	Ground
11	CML-I	TX8p	Transmitter Data Non-Inverted
12	CML-I	TX8n	Transmitter Data Inverted
13		GND	Ground
14	LVC MOS-I/O	SCL	2-wire Serial interface clock
15		VCC	+3.3V Power
16		VCC	+3.3V Power
17	Multi-Level	LPWn/PRSn	Low-Power Mode / Module Present
18		GND	Ground
19	CML-O	RX7n	Receiver Data Inverted
20	CML-O	RX7p	Receiver Data Non-Inverted
21		GND	Ground
22	CML-O	RX5n	Receiver Data Inverted
23	CML-O	RX5p	Receiver Data Non-Inverted
24		GND	Ground
25	CML-O	RX3n	Receiver Data Inverted
26	CML-O	RX3p	Receiver Data Non-Inverted
27		GND	Ground
28	CML-O	RX1n	Receiver Data Inverted
29	CML-O	RX1p	Receiver Data Non-Inverted
30		GND	Ground
31		GND	Ground
32	CML-O	RX2p	Receiver Data Non-Inverted
33	CML-O	RX2n	Receiver Data Inverted
34		GND	Ground
35	CML-O	RX4p	Receiver Data Non-Inverted
36	CML-O	RX4n	Receiver Data Inverted
37		GND	Ground
38	CML-O	RX6p	Receiver Data Non-Inverted
39	CML-O	RX6n	Receiver Data Inverted

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46		VCC	+3.3V Power
47	LVC MOS-I/O	SDA	2-wire Serial interface data
48		GND	Ground
49	CML-I	TX7n	Transmitter Data Inverted
50	CML-I	TX7p	Transmitter Data Non-Inverted

