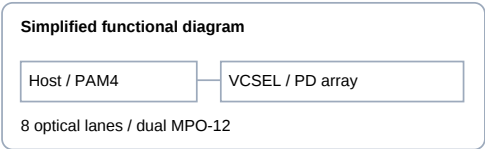


OSFP-SR8-800G Finned Top

OSFP, 800GBASE-SR8, 850 nm, 50 m, dual MTP/MPO-12/APC

1. Product overview

800GBASE-SR8 OSFP transceiver for 800 Gb/s systems over multimode fiber: up to 30 m on OM3 or 50 m on OM4. Integrated 850 nm VCSEL and photodetector arrays support PAM4 optical channels. Digital diagnostics are accessible through I2C.



2. Key features

- OSFP MSA 5.0; CMIS 5.1; 800GAUI-8, 8x106.25 Gb/s electrical interface
- Up to 106.25 Gb/s per channel, PAM4; integrated 850 nm VCSEL / PD arrays; DDM
- Hot-pluggable; single +3.3 V supply; 16 W maximum; 0°C to +70°C; RoHS 2.0

3. Applications

Data centers and cloud networks; high-performance computing networks; enterprise core and distribution layer applications.

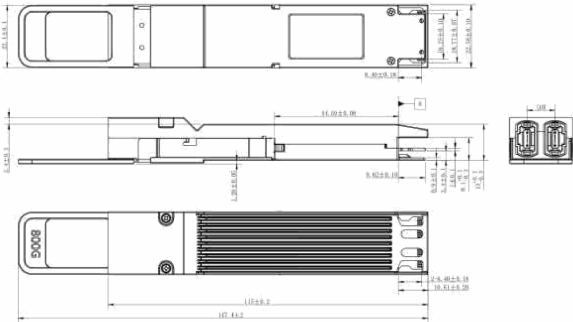
4. Technical data

Parameter	Specification	Parameter	Specification
Form factor / media	OSFP / MMF, dual MTP/MPO-12/APC	Storage temperature	-40 to +85°C
Absolute supply voltage	0 to 4 V	Humidity, non-condensing	5-85%

Electrical characteristics, per lane

TX / input	Specification	RX / output	Specification
Differential p-p tolerance	900 mV min (TP1)	AC common-mode RMS	17.5 mV max
Single-ended tolerance	-0.4 to 3.3 V	DC common-mode	-350 to 2850 mV
DC common-mode	-350 to 2850 mV	Differential output p-p	900 dB max]
Return loss	Common-to-differential: 802.3ck Eq.120G-1	Common-to-differential return loss	802.3ck 120G-1, dB
Effective return loss	TBD (min column)	Effective return loss	TBD dB (
Termination mismatch	10% max	Termination mismatch	10% max
Signaling rate	53.125 GBd typ	Signaling rate	53.125 GBd typ
Module stressed input test	See 120G.3.4.1	Near/far eye height	24 mV min, each
Near/far ESMW	TBD UI typ, each	Near/far vertical eye closure	7.5 dB max, each
Far-end pre-cursor ISI ratio	TBD UI typ	Transition time (20%-80%)	TBD ps

Mechanical drawing from source



5. Recommended operating conditions

Parameter	Specification	Parameter	Specification
Case temperature	0 to +70°C	Supply voltage	3.135 to 3.465 V
Power dissipation	16 W max	Distance	OM3: 0.5-30 m; OM4: 0.5-50 m
Pre-FEC BER	2.4x10 ⁻⁴ max	Nominal supply	+3.3 V

OSFP-SR8-800G

6. Optical characteristics

Transmitter, each lane	Specification	Receiver, each lane / stress test	Specification
Signaling rate	53.125 ±100 ppm GBd	Signaling rate	53.125 ±100 ppm GBd
Lane wavelength / modulation	850 nm typ / PAM4	Lane wavelength / modulation	850 nm typ / PAM4
RMS spectral width	0.6 nm max	Damage threshold	5 dBm min
Average optical power	-4.6 to +4 dBm	Average receive power	-6.4 to +4 dBm
OMAouter, TDECQ ≤1.8 dB	-2.6 min / 3.5 max dBm	Receiver power (OMA)	3.5 dBm max
OMAouter, 1.8 <TDECQ ≤4.4 dB	-4.4+TDECQ min / 3.5 max dBm	Sensitivity OMAouter, TECQ ≤1.8 dB	-4.6 dBm max
OMAouter, TECQ ≤1.8 dB	-2.6 min / 3.5 max dBm	Sensitivity OMAouter, 1.8 <TECQ ≤4.4 dB	-6.4+TECQ dBm max
OMAouter, 1.8 <TECQ ≤4.4 dB	-4.4+TECQ min / 3.5 max dBm	Receiver reflectance	-12 dB max
TDECQ / TECQ	4.4 dB max / 4.4 dB max	Stressed receiver sensitivity OMAouter	-2 dBm max
Extinction ratio	2.5 dB min	Stress test: SECQ, lane under test	4.4 dB typ
TX excursion / transition time	2 dB max / 17 ps max	Stress test: OMAouter, each aggressor	3.5 dBm typ
Average launch power, TX off	-30 dBm max		
Relative intensity noise12 (OMA)	-131 dB/Hz max		
Optical return loss tolerance	12 dB max		
Encircled flux (typ column)	≥86% at 19 µm; ≤30% at 4.5 µm; source unit: dB		

7. Digital diagnostics and management

Parameter	Specification
Management / monitor absolute error	CMIS 5.1 / I2C; temperature ±3°C; supply voltage ±5%; bias ±10%; RX power ±3.0 dB; TX power ±3.0 dB.
SCL/SDA levels	VOL 0-0.4 V; VOH Vcc-0.5 to Vcc+0.3 V; IOL max 3.0 mA Fast Mode, 20 mA Fast-mode Plus. VIL -0.3 to Vcc*0.3 V; VIH Vcc*0.7 to Vcc+0.5 V. Ci 14 pF max.
Bus load / control inputs	Cb 100 pF max at 3.0 kohm pull-up; 200 pF max at 1.6 kohm. LPMode/TxDis, Reset, ModeSell: VIL -0.3 to 0.8 V; VIH 2 to Vcc+0.3 V; Iin ≤125 µA for Vin<Vcc.
IntL/RxLOS / ModPrsL	IntL/RxLOS: VOL 0-0.4 V at IOL 2 mA; VOH Vcc-0.5 to Vcc+0.3 V with 10 kohm pull-up to host Vcc. ModPrsL: VOL 0-0.4 % at IOL 2 mA; VOH blank, unit dB; may be shorted to module GND (source values).
Control pins	SCL 14; SDA 47 (LVCMOS-I/O). LPWn/PRSn 17: low power / present. INT/RSTn 44: interrupt / reset (multilevel). SCL/SDA open-drain with host pull-up; source labels SDA as serial clock.
60-contact pin map	TX p/n lanes 1-8: 59/58, 2/3, 56/55, 5/6, 53/52, 8/9, 50/49, 11/12 (CML-I). RX p/n lanes 1-8: 29/28, 32/33, 26/25, 35/36, 23/22, 38/39, 20/19, 41/42 (CML-O). Vcc: 15,16,45,46 (+3.3 V). GND: 1,4,7,10,13,18,21,24,27,30,31,34,37,40,43,48,51,54,57,60.

8. Safety and regulatory

RoHS 2.0 compliance and OSFP MSA 5.0 stated in source. No laser safety class is specified.

9. Ordering information

Ordering number	Product description
OSFP-800G-F-SR8	800GBASE SR8 OSFP Finned Top Transceiver, Dual MTP/MPO-12, 50m over MMF