800G-SR8 OSFP LPO Transceiver

FEATURES:

- Hot-pluggable OSFP 800G SR8 multimode transceiver
- Compliant with OSFP MSA Type2 flat top
- Compliant with CMIS Rev 4.0 or above revision
- Integrated 850nm VCSEL array and PD array w/o DSP or CDR
- MPO-16 APC receptacles
- Maximum power consumption 4W
- Single 3.3V power supply
- Case operating temperature 0°C to 70°C
- Compliant to RoHS
- Class 1 laser

I. Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Notes
Storage Temperature	T_S	-40	85	℃	
Supply Voltage	V_{CC}	-0.5	3.6	V	
Relative Humidity (non-condensing)	RH	5	95	%	

II. Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Operating Case Temperature	T_{OPR}	0	-	70	℃	
Power Supply Voltage	V_{CC}	3.135	3.3	3.465	V	
Maximum Power Dissipation	P_D	-	-	4	W	
Signaling Rate per Lane	SRL	-	53.125	-	GBd	PAM4

III. Transmitter Optical Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Wavelength	λ_C	844	850	863	nm	
RMS spectral width	$\Delta\lambda_{rms}$			0.6	nm	
Average Launch Power, each lane	AOP_L	-1.0	-	3.0	dBm	
Average Launch Power of OFF Transmitter, each lane	T_{OFF}	-	-	-30	dBm	
Extinction Ratio, each lane	ER		3	-	dB	
Optical Return Loss Tolerance	ORL		-	14	dB	
Transmitter Reflectance	T_R	-	-	-26	dB	

IV. Receiver Optical Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Wavelength	λ_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	-	-	-20	dB	

V. Pin Definitions

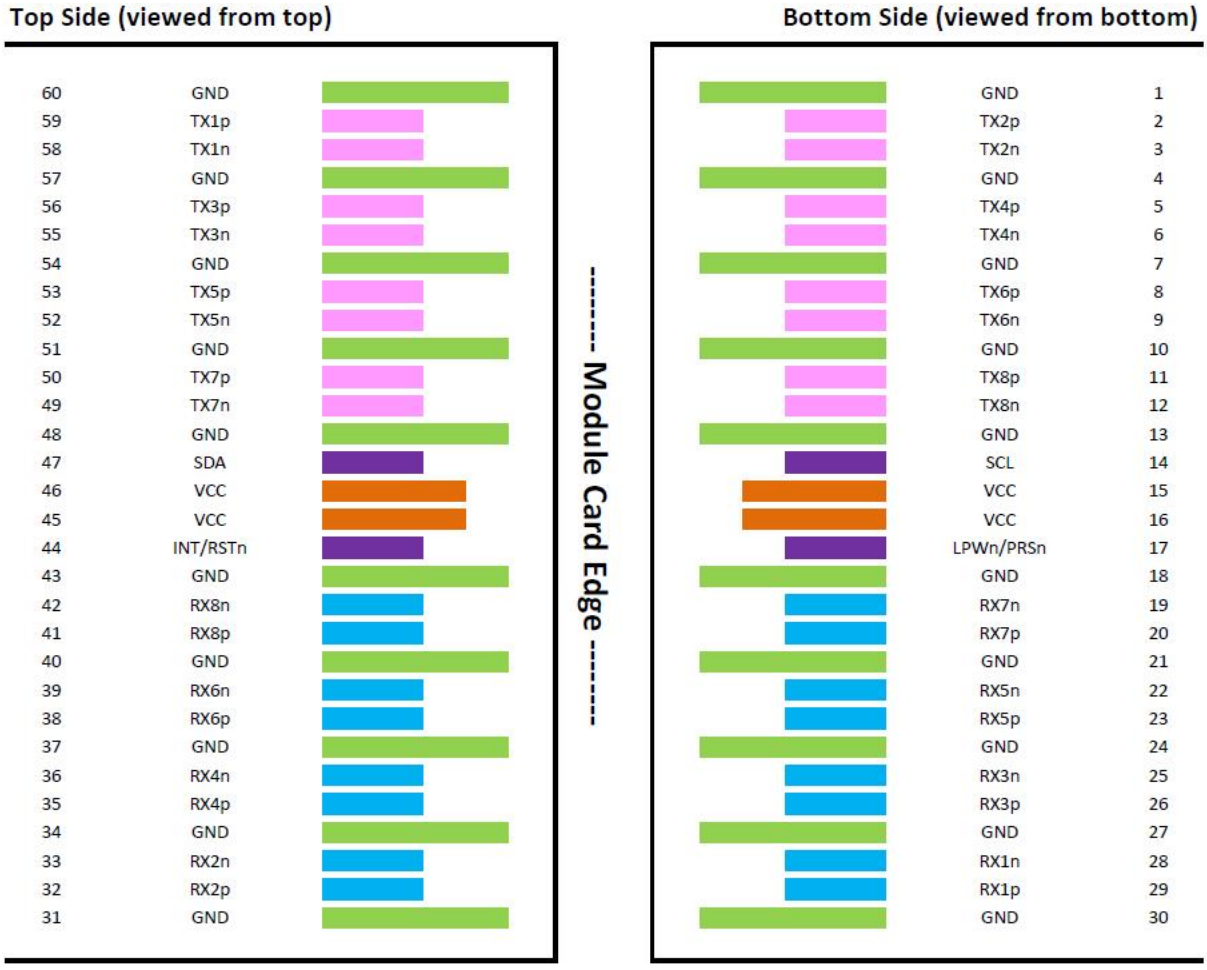
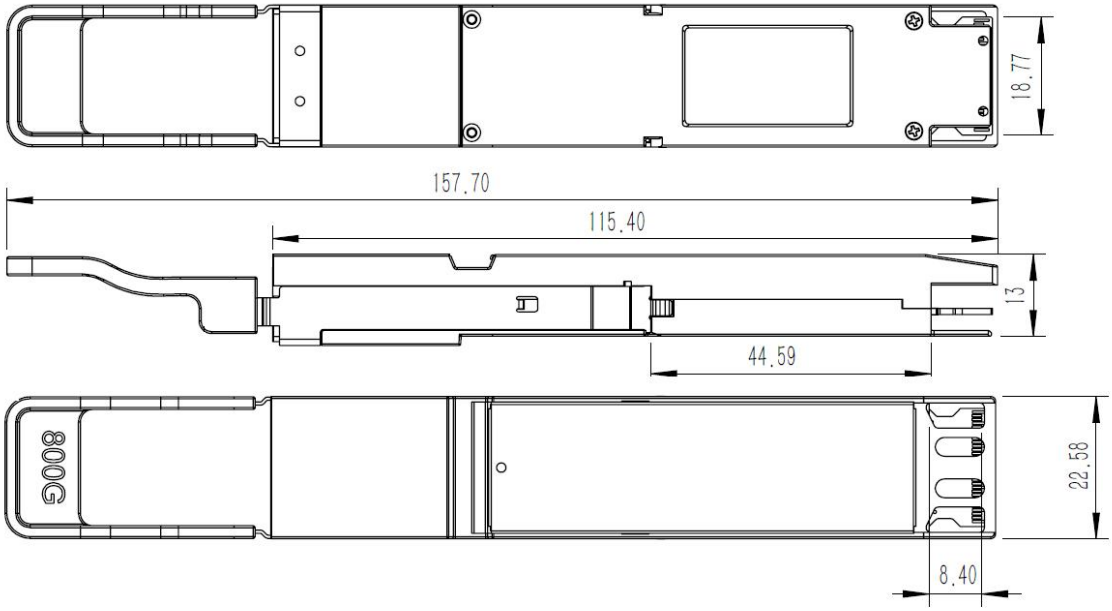


Figure 1 – OSFP module Pinout

Pin#	Logic	Symbol	Description	Direction	Plug Sequence	Notes
1		GND	Ground		1	
2	CML-I	TX2p	Transmitter Data Non-Inverted	Input from Host	3	

3	CML-I	TX2n	Transmitter Data Inverted	Input from Host	3	
4		GND	Ground		1	
5	CML-I	TX4p	Transmitter Data Non-Inverted	Input from Host	3	
6	CML-I	TX4n	Transmitter Data Inverted	Input from Host	3	
7		GND	Ground		1	
8	CML-I	TX6p	Transmitter Data Non-Inverted	Input from Host	3	
9	CML-I	TX6n	Transmitter Data Inverted	Input from Host	3	
10		GND	Ground		1	
11	CML-I	TX8p	Transmitter Data Non-Inverted	Input from Host	3	
12	CML-I	TX8n	Transmitter Data Inverted	Input from Host	3	
13		GND	Ground		1	
14	LVCMOS-I/O	SCL	2-wire Serial interface clock	Bi-directional	3	
15		VCC	+3.3V Power	Power from Host	2	
16		VCC	+3.3V Power	Power from Host	2	
17	Multi-Level	LPWn/PRSn	Low-Power Mode / Module Present	Bi-directional	3	
18		GND	Ground		1	
19	CML-O	RX7n	Receiver Data Inverted	Output to Host	3	
20	CML-O	RX7p	Receiver Data Non-Inverted	Output to Host	3	
21		GND	Ground		1	
22	CML-O	RX5n	Receiver Data Inverted	Output to Host	3	
23	CML-O	RX5p	Receiver Data Non-Inverted	Output to Host	3	
24		GND	Ground		1	
25	CML-O	RX3n	Receiver Data Inverted	Output to Host	3	
26	CML-O	RX3p	Receiver Data Non-Inverted	Output to Host	3	
27		GND	Ground		1	
28	CML-O	RX1n	Receiver Data Inverted	Output to Host	3	
29	CML-O	RX1p	Receiver Data Non-Inverted	Output to Host	3	
30		GND	Ground		1	
31		GND	Ground		1	
32	CML-O	RX2p	Receiver Data Non-Inverted	Output to Host	3	
33	CML-O	RX2n	Receiver Data Inverted	Output to Host	3	
34		GND	Ground		1	
35	CML-O	RX4p	Receiver Data Non-Inverted	Output to Host	3	
36	CML-O	RX4n	Receiver Data Inverted	Output to Host	3	
37		GND	Ground		1	
38	CML-O	RX6p	Receiver Data Non-Inverted	Output to Host	3	
39	CML-O	RX6n	Receiver Data Inverted	Output to Host	3	
40		GND	Ground		1	
41	CML-O	RX8p	Receiver Data Non-Inverted	Output to Host	3	
42	CML-O	RX8n	Receiver Data Inverted	Output to Host	3	
43		GND	Ground		1	
44	Multi-Level	INT/RSTn	Module Interrupt / Module Reset	Bi-directional	3	
45		VCC	+3.3V Power	Power from Host	2	
46		VCC	+3.3V Power	Power from Host	2	
47	LVCMOS-I/O	SDA	2-wire Serial interface data	Bi-directional	3	
48		GND	Ground		1	
49	CML-I	TX7n	Transmitter Data Inverted	Input from Host	3	
50	CML-I	TX7p	Transmitter Data Non-Inverted	Input from Host	3	
51		GND	Ground		1	
52	CML-I	TX5n	Transmitter Data Inverted	Input from Host	3	
53	CML-I	TX5p	Transmitter Data Non-Inverted	Input from Host	3	
54		GND	Ground		1	
55	CML-I	TX3n	Transmitter Data Inverted	Input from Host	3	
56	CML-I	TX3p	Transmitter Data Non-Inverted	Input from Host	3	
57		GND	Ground		1	

58	CML-I	TX1n	Transmitter Data Inverted	Input from Host	3	
59	CML-I	TX1p	Transmitter Data Non-Inverted	Input from Host	3	
60		GND	Ground		1	



VI. Mechanical Dimensions

Figure 2 – Mechanical Dimensions.

VII. Ordering Information

Part Number	Description
OSFP-800G-LPO-SR8	800Gb/s, OSFP, MPO16, 850nm MMF, SR8, LPO, Type2 flat top