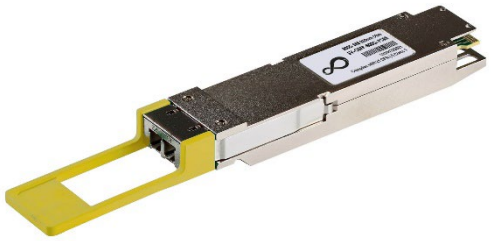
SV-OSFP-800G-PSR8

(For Preliminary Only)



Features

- OSFP form factor hot pluggable
- CMIS compliance
- 8 parallel lanes of 100G-PAM4 electrical and optical parallel lanes
- Dual optical port of MPO-12/APC
- Top close fin
- Up to 50m reach on multi-mode fiber OM4 and 30m on OM3
- 15 Watts max with VDM on
- Case temperature range of 15°C to 70°C

Part number	Description
SV-OSFP-800G-PSR8	Starview OSFP 800Gbps Finned Top module 800G-2xSR4/ SR8 aggregating 8 x 100Gbps 850nm MM (Dual MPO-12 APC) with Digital Diagnostic Monitoring (DDM), distance up to 50m on 50/125um MM OM4

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Units	Notes
Storage Temperature	TS	-40	85	degC	
Operating Case Temperature	TOP	15	70	degC	
Power Supply Voltage	VCC	-0.5	3.6	V	
Relative Humidity (non-condensation)	RH	0	85	%	

Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Units	Notes
Operating Case Temperature	TOP	15		70	degC	
Power Supply Voltage	VCC	3.135	3.3	3.465	V	
Data Rate, each Lane			53.125		GBd	PAM4
Data Rate Accuracy		-50		50	ppm	
Pre-FEC Bit Error Ratio				$2.4x10^{-4}$		
Post-FEC Bit Error Ratio				$1x10^{-15}$		1
Link Distance (OM4)	D1	2		50	m	2
Link Distance (OM3)	D2	2		30	m	

Notes:

1. FEC provided by host system.
2. FEC required on host system to support maximum distance.

Electrical Specifications

Parameter	Test Point	Min	Typical	Max	Units	Notes
Power Consumption				15	W	
Module Input (each Lane)						
Signaling Rate, each Lane	TP1		53.125 ± 50 ppm		GBd	
DC Common-mode input Voltage	TP1	-0.35		2.85	V	
Single-ended input Voltage	TP1a	-0.4		3.3	V	
AC common-mode voltage tolerance Low-frequency, VCMLF Full-band, VCMFB	TP1a	32 80			mV	

Module stressed input tolerance	TP1a	IEEE 802.3ck D3.3 120G.3.4.3		
Differential Peak-to-Peak input Voltage tolerance	TP1a	750		mV
Differential to common-mode return loss, RLcd	TP1	IEEE 802.3ck D3.3 Equation 120G-2		dB
Effective return loss, ERL	TP1	8.5		dB
Differential termination mismatch	TP1		10	%
Module Output (each Lane)				
Signaling Rate, each lane	TP4	53.125		GBd
Peak-to-peak AC common- mode voltage Low-frequency, VCMLF Full-band, VCMFB	TP4		 32 80	mV
Differential peak-to-peak output voltage Short mode Long mode Disabled	TP4		 600 845 35	mV
Eye height	TP4	15		mV
Vertical eye closure, VEC	TP4		12	dB
Common-mode to differential return loss, RLdc	TP4	IEEE 802.3ck Equation 120G-1		dB
Effective return loss, ERL	TP4	8.5		dB
Differential termination mismatch	TP4		10	%
Transition time	TP4	8.5		ps
DC common-mode voltage tolerance	TP4	-0.35	2.85	V

Optical Characteristics

Parameter	Symbol	Min	Typical	Max	Units	Notes
Transmitter						
Data Rate, each Lane			53.125 ± 50 ppm		GBd	
Modulation Format			PAM4			
Center Wavelength	λc	842	850	948	nm	
RMA spectral width				0.65	nm	

Average Launch Power, each Lane	PAVG	-4.6		4	dBm	1
Outer Optical Modulation Amplitude (OMAouter), each Lane For max(TECQ,TDECQ)≤ 1.8dB For 1.8<max(TECQ,TDECQ)≤ 4.4dB	POMA	-2.6 -4.4+ max(TECQ,TDECQ)		3.5	dBm	
Transmitter and Dispersion Eye Closure for PAM4 (TDECQ), each Lane	TDECQ			4.4	dB	
Transmitter eye closure for PAM4, each lane	TECQ			4.4	dB	
Overshoot/undershoot				29	%	
Transmitter power excursion				2.3	dBm	
Extinction Ratio	ER	2.5			dB	
Transmitter Transition Time				17	ps	
Average launch power of OFF transmitter	Toff			-30	dBm	
RIN14OMA	RIN			-132	dB/Hz	
Optical Return Loss Tolerance	TOL			14	dB	
Encircled flux		≥ 86% at 19 μm ≤ 30% at 4.5 μm				2
Receiver						
Data Rate, each Lane		53.125 ± 50 ppm			GBd	
Modulation Format		PAM4				
Center wavelength	λc	842	850	948	nm	
Damage Threshold, each Lane	THd	5			dBm	3
Average Receive Power, each Lane		-6.3		4	dBm	4
Receive Power (OMAouter), each Lane				3.5	dBm	

Receiver Sensitivity (OMAouter), each Lane	SEN			max (-4.4,TECQ-6.2)	dBm	
Stressed Receiver Sensitivity (OMAouter), each Lane	SRS			-1.8	dBm	5
Receiver Reflectance	RR			-15	dB	
LOS Assert	LOSA	-30		-10.4	dBm	
LOS De-assert	LOSD			-7.4	dBm	
LOS Hysteresis	LOSH	0.5			dB	
Conditions of Stress Receiver Sensitivity Test (Note 6)						
Stressed Eye Closure for PAM4 (SECQ), Lane under Test			4.4		dB	
OMAouter of each aggressor lane			3.5		dB	

Notes:

1. Average launch power, each lane (min) is informative and not the principal indicator of signal strength. A transmitter with launch power below this value cannot be compliant; however, a value above this does not ensure compliance.
2. If measured into type A1a.2 or type A1a.3, or A1a.4, 50 µm fiber, in accordance with IEC 61280-1-4.
3. The receiver shall be able to tolerate, without damage, continuous exposure to a modulated optical input signal having this power level on one lane. The receiver does not have to operate correctly at this input power.
4. Average receive power, each lane (min) is informative and not the principal indicator of signal strength. A received power below this value cannot be compliant; however, a value above this does not ensure compliance.
5. Measured with conformance test signal at TP3 for the BER equal to 2.4x10-4.
6. These test conditions are for measuring stressed receiver sensitivity. They are not characteristics of the receiver.