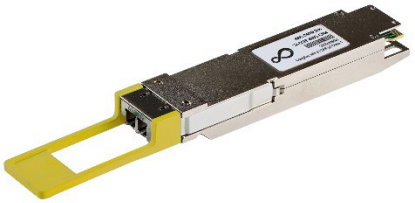
SV-OSFP-400G-CFR4

Starview OSFP 400G-FR4 aggregating 4 x 100Gbps CWDM SM (LC) with DDM, distance up to 2km



Features

- Supports 425Gbps
- Single 3.3V Power Supply
- Power dissipation < 10W
- Up to 2km over SMF
- OSFP MSA Compliant
- 8x53.125GBd(PAM4) electrical interface
- Data Rate 106.25Gbps (PAM4) optical channel
- Duplex LC connector
- Commercial case temperature range of 0°C to 70°C
- PIN and TIA array on the receiver side
- I2C interface with integrated Digital Diagnostic Monitoring
- Safety Certification: TUV/UL/FDA

Applications

- 4 x 100G-FR4 applications
- Data center

Part number	Description
SV-OSFP-400G-CFR4	Starview OSFP 400Gbps module 400G-FR4 aggregating 4 x 100Gbps CWDM (1271/ 1291/ 1311/ 1331nm) SM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 2km

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	Ts	-40	+85	°C
Supply Voltage	Vcc	-0.5	3.6	V
Damage threshold	Rxdmg	4.5		dBm

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	Tc	0		70	°C
Power Supply Voltage	Vcc	3.135	3.3	3.465	V
Operating Relative Humidity	RH	5		85	%
Power Dissipation	P_D			10	W

* Power Supply specifications, Instantaneous, sustained and steady state current compliant with OSFP MSA Power Classification.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
Transmitter						
Differential data input swing per lane		900			mV_{P-P}	
Differential input impedance	Zin	90	100	110	ohm	
Stressed input parameters						
Eye width		0.265			UI	@TP4, all 3 PAM4 eyes, 1E-5
DC common mode voltage		-350		2850	mV	
Receiver						
Differential output amplitude				900	mV_{P-P}	
Differential output impedance	Zout	90	100	110	ohm	
Output Rise/Fall Time	t_r/t_f	9.5			ps	20%~80%
Eye width		0.265			UI	
Eye height differential		70			mV	@TP4, all 3 PAM4 eyes, 1E-5

Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Signaling speed per lane			106.25		Gbps
Modulation format			PAM4		

Lane_0 Center Wavelength	λC0	1264.5	1271	1277.5	nm
Lane_1 Center Wavelength	λC1	1284.5	1291	1297.5	nm
Lane_2 Center Wavelength	λC2	1304.5	1311	1317.5	nm
Lane_3 Center Wavelength	λC3	1324.5	1331	1337.5	nm
Side-mode Suppression Ratio	SMSR	30			dB
Extinction Ratio	ER	3.5			dB
Transmit OMA each lane	TxOMA	-0.3		3.7	dBm
Transmit average each lane	TxAVG	-3.3		3.5	dBm
Launch Power in OMA_{outer} minus TDECQ, each Lane *(note4)		-1.7			dBm
Launch Power in OMA_{outer} minus TDECQ, each Lane *(note5)		-1.6			dBm
Transmitter and dispersion eye closure, each lane	TDECQ			3.4	dB
Optical return loss tolerance*(note6)				17.1	dB
Receiver					
Signaling speed per lane			106.25		Gbps
Lane_0 Center Wavelength	λC0	1264.5	1271	1277.5	nm
Lane_1 Center Wavelength	λC1	1284.5	1291	1297.5	nm
Lane_2 Center Wavelength	λC2	1304.5	1311	1317.5	nm
Lane_3 Center Wavelength	λC3	1324.5	1331	1337.5	nm
Damage threshold each lane		4.5			dBm
Receive Power (OMA) each lane	RxOMA			3.7	dBm
Average receive power each lane	RxAVG	-7.3		3.5	dBm
Receiver sensitivity (OMA_{outer}), each lane	SenOMA	max(-4.6, SECQ-6.0)			dBm
Receiver reflectance				-26	dB
LOS Assert	LOSA	-30			dBm
LOS De-Assert	LOSD			-12	dBm
LOS Hysteresis		0.5			dB

Note4：For ER≥4.5dB

Note5: For ER < 4.5dB

Note6: Transmitter reflectance is defined looking into the transmitter.