

SV-QSFP-2x100G-LR4

Starview QSFP28-DD 2x100Gbps module aggregating 8 x 25Gbps with 2 x LWDM SM (Dual CS) with DDM, distance up to 10km



Features

- Supports 206Gbps
- Single 3.3V Power Supply
- Power dissipation < 8.0W
- up to 10km over SMF
- 8x25G electrical interface
- Dual CS connector
- Commercial case temperature range of 0°C to 70°C
- 8*25Gbps DFB-based LAN-WDM transmitter
- PIN and TIA array on the receiver side
- I2C interface with integrated Digital Diagnostic Monitoring
- Safety Certification: TUV/UL/FDA
- RoHS Compliant

Applications

- QSFP-DD 2*100G Ethernet
- Data center

Ordering Information

Part number	Description
SV-QSFP-2x100G-LR4	Starview QSFP28-DD 2x100Gbps module aggregating 8 x 25Gbps with 2 x LWDM (1295/ 1300/ 1305/ 1310nm) SM (Dual CS) with Digital Diagnostic Monitoring (DDM), distance up to 10km

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	Ts	-40	+85	°C
Supply Voltage	Vcc	-0.5	3.6	V
Operating Relative Humidity	RH	5	85	%
Receiver Damage Threshold, per Lane	Rxdmg	5.5		dBm

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	Tc	0	25	70	°C
Power Supply Voltage	Vcc	3.135	3.3	3.465	V
Power Dissipation	P _D			8	W
Instantaneous peak current	I _{cc_ip}			3200	mA
Sustained peak current	I _{cc_sp}			2640	mA
Steady state current	I _{cc}			2308	mA

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

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
Transmitter						
Differential data input swing per lane				900	mV _{p-p}	
Input Impedance (Differential)	Z _{in}			10	%	
Stressed input parameters						
Eye width		0.46			UI	
Applied pk-pk sinusoidal jitter			IEEE 802.3bm Table 88-13			
Eye height		95			mV	
DC common mode voltage		-350		2850	mV	
Receiver						
Differential output amplitude		200		900	mV _{p-p}	
Output Impedance (Differential)	Z _{out}			10	%	
Output Rise/Fall Time	t _r /t _f	12			ps	20%~80%
Eye width		0.57			UI	
Eye height differential		228			mV	
Vertical eye closure				5.5	dB	

Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Signaling Speed per Lane	BRAVE		25.78		Gbps
Data Rate Variation		-100		+100	ppm
Lane_1/5 Center Wavelength	$\lambda C1$	1294.53	1295.56	1296.59	nm
Lane_2/6 Center Wavelength	$\lambda C2$	1299.02	1300.05	1301.09	nm
Lane_3/7 Center Wavelength	$\lambda C3$	1303.54	1304.58	1305.63	nm
Lane_4/8 Center Wavelength	$\lambda C4$	1308.09	1309.14	1310.19	nm
Total Average Output Power each optical interface	P_o			10.5	dBm
Average Launch Power each Lane*(Note3)	P_{each}	-4.3		4.5	dBm
Transmit OMA each Lane *(Note4)	TxOMA	-1.3		4.5	dBm
Launch power in OMA minus TDP, each lane	OMA-TDP	-2.3			dBm
Transmitter and Dispersion Penalty per Lane	TDP			2.2	dB
Side Mode Suppression Ratio	SMSR	30			dB
Optical Return Loss Tolerance				20	dB
Transmitter Reflectance *(Note5)				-12	dB
Extinction Ratio	ER	4			dB
Transmitter eye mask definition {X1, X2, X3, Y1, Y2, Y3}*(Note6)			{0.25, 0.4, 0.45, 0.25, 0.28, 0.4}		
Receiver					
Signaling Speed per Lane	BRAVE		25.78		Gbps
Data Rate Variation		-100		+100	ppm
Damage threshold	Rxdmg	5.5			dBm
Lane_1/5 Center Wavelength	$\lambda C1$	1294.53	1295.56	1296.59	nm
Lane_2/6 Center Wavelength	$\lambda C2$	1299.02	1300.05	1301.09	nm
Lane_3/7 Center Wavelength	$\lambda C3$	1303.54	1304.58	1305.63	nm
Lane_4/8 Center Wavelength	$\lambda C4$	1308.09	1309.14	1310.19	nm
Average receive power *(Note7)	Rxpow	-10.6		4.5	dBm
Receive Power (OMA) per Lane	RxOMA			4.5	dBm
Unstressed Receiver Sensitivity (OMA) per Lane *(Note8)	Rxsens			-8.6	dBm
Stressed Receiver Sensitivity (OMA) per Lane *(Note9)	RXSRS			-6.8	dBm
Optical Return Loss	ORL			-26	dB
Conditions of stressed receiver sensitivity test					
Vertical Eye Closure Penalty *(Note10)	VECP	1.8			dB

Stressed J2 Jitter *(Note10)	J2	0.3		UI
Stressed J9 Jitter *(Note10)	J9	0.47		UI
LOS Assert	LOSA	-25		dBm
LOS De-Assert	LOSD		-12	dBm
LOS Hysteresis		0.5		dB

Note3: 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.

Note4: Even if the TDP < 1.0dB, the OMA (min) must exceed this value.

Note5: Transmitter reflectance is defined looking into the transmitter.

Note6: Hit ratio of 5×10^{-5}

Note7: 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.

Note8: Receiver sensitivity (OMA), each lane (max) is informative.

Note9: Measured with conformance test signal at TP3 for BER =10-12.

Note10: Vertical eye closure penalty, stressed eye J2 Jitter, stressed eye J9 Jitter are test conditions for measuring stressed receiver sensitivity. They are not characteristics of the receiver.