

SV-QSFP-400G-ER8

Starview QSFP56-DD 400G-ER8 aggregating 8 x 50Gbps LWDM SM (LC) with DDM, distance up to 40km



Features

- QSFP-DD MSA compliant
- Compliant to IEEE 802.3bs 400GBASE-ER8
- Digital diagnostic monitoring support
- Hot pluggable 76 pin electrical interface
- 8 LAN-WDM lanes MUX/DEMUX design
- 53.125Gbit/s PAM4 Channel Electrical Serial Interface (400GAUI-8)
- Maximum power consumption 15.4W
- LC duplex connector
- Supports 425Gb/s bit rate
- Up to 40km transmission on single mode fiber
- Operating case temperature: 0°C to 70°C
- Single 3.3V power supply
- RoHS 2.0 compliant

Applications

- 400GBASE-ER8 Ethernet
- Telecom networking
- Data Center Interconnect

Part number	Description
SV-QSFP-400G-ER8	Starview QSFP56-DD 400Gbps module 400G-ER8 8 x 50Gbps LWDM SM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 40km

Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Maximum Supply Voltage	Vcc	-0.5	3.3	3.6	V	
Storage Temperature	Ts	-40		85	°C	
Relative Humidity	RH	10		85	%	1
Damage Threshold, each lane	THd	-3.4			dBm	

Notes

1. Non-condensing

Operating Environments

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	Vcc	3.135	3.3	3.465	V
Case Temperature	Top	0		70	°C
Link Distance with G.652				40	km

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Note
Power dissipation				15.4	W	
Supply Current	Icc			4.444	A	Steady state
400GAUI-8 Electrical Characteristics						
Transmitter						
Signaling Rate, each lane			26.5625		GBd	PAM4
Differential Voltage pk-pk	Vin, pp			880	mV	
Common Mode Voltage	Vcm	-0.3		2.8	V	
Common Mode Noise	RMS			17.5	mV	
Differential Termination Resistance Mismatch				10	%	
Transition time	Trise/Tfall	12			ps	20%~80%
Eye Width at 10 ⁻⁶	EW6	0.2			UI	

probability					
Eye Height at at 10 ⁻⁶ proba- bility	EH6	32		mV	
Eye Linearity		0.85			
Receiver					
Signaling Rate, each lane		26.5625		GBd	PAM4
Differential Voltage pk-pk	Vout, pp		900	mV	
Transition time	Trise/Tfall	9.5		ps	20%~80%
Near-end eye width at 10 ⁻⁶ probability	EW6	0.265		UI	
Near-end eye height at 10 ⁻⁶ probability	EH6	70		mV	
Far-end eye width at 10 ⁻⁶ probability	EW6	0.2		UI	
Far-end eye height at 10 ⁻⁶ probability	EH6	30		mV	
Near-end Eye Linearity		0.85			

Notes

1. 400GAUI-8 Electrical Characteristics refers to CEI-56G-VSR-PAM4 of OIF-CEI-04.0

Optical Characteristics
(EOL, TOP = 0 to +70°C, VCC = 3.135 to 3.465 Volts)

Parameters	min	type	max	Unit	Note
Transmitter					
Signaling Speed per Lane		26.5625 ±100 ppm		GBd	
Transmit wavelengths	1272.55	1273.54	1274.54	nm	
	1276.89	1277.89	1278.89		
	1281.25	1282.26	1283.27		
	1285.65	1286.66	1287.68		
	1294.53	1295.56	1296.59		
	1299.02	1300.05	1301.09		
	1303.54	1304.58	1305.63		

	1308.09	1309.14	1310.19	
Total Average Launch Power			14.6	dBm
Average launch power, each lane	-0.6		5.6	dBm
Optical Modulation Amplitude (OMA), each lane	2.4		6.4	dBm
Extinction Ratio (ER)	6			dB
Side-Mode Suppression Ratio (SMSR)	30			dB
Transmitter and Dispersion Eye Closure for PAM4 (TDECQ), each lane			3.4	dB
Average launch power of OFF transmitter, eachlane (max)			-30	dBm
RIN15OMA			-132	dB/Hz
Optical return loss tolerance			15	dB
Transmitter reflectance			-26	dB
Receiver				
Signaling Speed per Lane	26.5625 ±100 ppm			GBd
Receive wavelengths	1272.55	1273.54	1274.54	nm
	1276.89	1277.89	1278.89	
	1281.25	1282.26	1283.27	
	1285.65	1286.66	1287.68	
	1294.53	1295.56	1296.59	
	1299.02	1300.05	1301.09	
	1303.54	1304.58	1305.63	
	1308.09	1309.14	1310.19	
Average receiver power, each lane	-18.6		-4.4	dBm
Receiver power, each lane (OMA)			-3.6	dBm
Difference in receive power between any twolanes(OMA)			5.8	dB
Damage threshold, each lane	-3.4			dBm
Receiver sensitivity (OMA), each lane			RS	dBm ¹
LOS Assert	-30			dBm
LOS Deassert			-20.6	dBm

LOS Hysteresis	0.5	dB
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Receiver reflectance	-26	dB
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Notes

1, $RS = \max(-16.1, SECQ - 17.5)$ (dBm). For the requirement of receiver sensitivity, the value of BER is $2e-4$ before FEC.