SV-QSFP-100G-eZR4+

Starview QSFP28 100G module LWDM wavelengths SM (LC) DDM, distance up to 100km

Features

- Supports 100GBASE 100GE
- Lane bit rate 25.78 Gb/s 100GE
- Up to 100km transmission on SMF
- LAN WDM laser and PIN receiver with SOA
- Support Multi-Pin function with IntL/RxLOSL and LPMode/TxDIS
- High speed I/O electrical interface (CAUI-4)
- I2C interface with integrated Digital Diagnostic monitoring
- QSFP28 MSA package with duplex LC connector
- Single +3.3V power supply
- Typical power consumption 6.5 W
- Operating case temperature: 0 to +70 °C
- Compliant to IEEE 802.3bm and ITU-T G.959
- Compliant to SFF-8636 and SFF-8679
- Complies with EU Directive 2015/863/EU

Applications

- 100GBASE-ZR4 plus

Ordering Information

Part number	Description
SV-QSFP-100G-eZR4+	Starview QSFP28 100Gbps module 100GBase aggregating 4 x 25Gbps duplex LWDM (1295.6 nm, 1300.1 nm, 1304.6 nm, and 1309.1nm) wavelengths SM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 100km, supporting 100GE

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Storage Temperature	T_S	-40	-	+85	°C	
Supply Voltage	V_{CC}	-0.5	-	+4.0	V	
Operating Relative Humidity	RH	-	-	+85	%	

Operating Environments

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Operating Case Temperature	T_C	0	-	+70	°C	
Power Supply Voltage	V_{CC}	3.13	3.3	3.47	V	
Power Supply Current	I_{CC}	-	-	1.97	A	
Typical Power Dissipation	P_D	-	-	6.5	W	
Aggregate Bit Rate	BR_{AVE}	-	103.125	-	Gb/s	
Lane Bit Rate	BR_{LANE}	-	25.78	-	Gb/s	
Transmission Distance	TD	-	-	100	km	Over SMF

Optical Characteristics

Transmitter						
Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Center Wavelength Lane 0	λ_0	1294.53	1295.56	1296.59	nm	
Center Wavelength Lane 1	λ_1	1299.02	1300.05	1301.09	nm	
Center Wavelength Lane 2	λ_2	1303.54	1304.58	1305.63	nm	
Center Wavelength Lane 3	λ_3	1308.09	1309.14	1310.19	nm	
Total Launch Power, 100GE	P_{ALL}	-	-	14	dBm	1
Average Launch Power per Lane, 100GE	P_{TX_LANE}	4	-	8	dBm	1
Difference in launch power between lanes	$P_{TX\_DELTA\_LANE}$	-	-	3.6	dB	
Average Output Power (Laser Turn off)	$P_{OUT\text{-}OFF}$	-	-	-30	dBm	
Side Mode Suppression Ratio	SMSR	30	-	-	dB	

Extinction Ratio, 100GE	ER	6	-	-	dB	
Optical Eye Mask	IEEE 802.3 {0.25,0.4, 0.45, 0.25, 0.28, 0.4}					
Receiver						
Center Wavelength Lane 0	λ_0	1294.53	1295.56	1296.59	nm	
Center Wavelength Lane 1	λ_1	1299.02	1300.05	1301.09	nm	
Center Wavelength Lane 2	λ_2	1303.54	1304.58	1305.63	nm	
Center Wavelength Lane 3	λ_3	1308.09	1309.14	1310.19	nm	
Damage threshold	Pdamage	5.5	-	-	dBm	
Average Rx Power per Lane, 100GE	P_{RX_LANE}	-30	-	4.5	dBm	2
Difference in launch power between lanes	$P_{RX\_DELTA\_LANE}$	-	-	4.5	dB	
Los Assert	LosA	-40	-	-	dBm	
Los De-assert	LosDA	-	-	-31	dBm	
Los Hysteresis	LosH	0.5	-	5	dB	

Notes:

1. The optical power is launched into SMF.
2. Measured with a PRBS 2^{31}-1 test pattern @25.78125 Gb/s, BER≤5E-5.

Electrical Characteristics

High-Speed Signal: Compliant to CAUI-4 (IEEE 802.3bm)
Low-Speed Signal: Compliant to SFF-8679.

Transmitter (Module Input)						
Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Differential Data Input Amplitude	$V_{IN,P-P}$	85	-	900	mVpp	
Differential Termination Mismatch		-	-	10	%	
Differential input return loss(min)	RLd(f)	Compliance with IEEE802.3ba Equation (83A–5)			dB	

Differential to common mode input return loss (min)	RLdc(f)	Compliance with IEEE802.3ba Equation (83A–6)			dB
LPMode, Reset and ModSelL, V in low	V_{IL}	-0.3	-	0.8	V
LPMode, Reset and ModSelL, V in high	V_{IH}	2.0	-	V_{CC}+0.3	V
Receiver (Module Output)					
Differential Data Output Amplitude	$V_{OUT,P-P}$	200	-	900	mVpp
Differential Termination Mismatch （1MHZ）		-	-	10	%
Transition time, 20% to 80%	Tr Tf	12	-	-	ps
Differential output return loss (min)	RLd(f)	Compliance with IEEE802.3ba Equation (83A–7)			dB
Common to differential mode conversion return loss (min)	RLdc(f)	Compliance with IEEE802.3ba Equation (83A–8)			dB
ModPrsL and IntL, V out low	V_{OL}	0	-	0.4	V
ModPrsL and IntL, V out high	V_{OH}	V_{CC}-0.5	-	V_{CC}+0.3	V