

SV-X2-LR1

10G, 1310nm SM (SC), distance up to 10km



Features

- XAUI Electrical Interface: 4 Lanes @ 3.125Gbit/s
- Uncooled 1310nm DFB laser and PIN receiver
- Hot Z-Pluggable
- SC-Duplex Optical Receptacle
- MDIO, DOM Support
- Compliant to X2 MSA
- Compliant to IEEE 802.3ae 10GBASE-LR Application
- Case operating temperature: 0 to 70 °C

Applications

- IEEE 802.3ae as 10GBASE-SR, X2 MSA Release 1.0b

Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-X2-LR1	Starview X2 module, 10G LAN supporting data rate 10.3Gbps 1310nm SM (SC), distance up to 10km	-5 to -0.5	-14.4 to 0.5	9.4	10	NO

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Center Wavelength	λ_C	1290	1310	1330	nm	
Signaling speed		-	10.3125	-	Gbit/s	
Signaling speed variation from nominal		-100	-	+100	ppm	
Average Optical Power	P _{out}	-5	-	0.5	dBm	
Side Mode Suppression Ratio	SMSR	30	-	-	dB	
Extinction Ratio	ER	3.5	-	-	dB	
Off Transmit Power	P _{off}	-	-	-30	dBm	
Receiver Sensitivity		-	-	-14.4	dBm	
Receiver Overload	R _{ro}	+0.5	-	-	dBm	
Optical Centre Wavelength	λ_C	1270		1610	nm	
Los D-Assert	ROS _d			-18	dBm	
Los Assert	ROS _a	-32				
Los Hysteresis		0.5	-	-	dB	

Power Supply Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Supply Voltage	VCC1	3.135	3.300	3.465	V	
Supply Voltage	VCC2	1.152	1.200	1.248	V	
Supply Current	ICC1	-	-	1.0	A	+3.3 V
Supply Current	ICC2	-	-	1.7	A	APS
Power Consumption	PDS	-	-	4.0	W	
Power supply stabilization time	TDF	-	-	500	ms	
Initialization Time	TINIT	-	-	5	s	
RESET Assert Time	TRESET	1	-	-	ms	
Hold Time after rising edge of RESET	THOLD	500	-	-	ms	

XAU1 Driver Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Baud Rate		-	3.125	-	Gbit/s	
Baud Rate Tolerance		-100	-	+100	ppm	
Differential Amplitude		800	-	1600	mVPP	AC, near-end value

1.2V CMOS Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Input High Voltage	VIH	0.84	-	1.5	V	
Input Low Voltage	VIL	-0.3	-	0.36	V	
Input Pull-down Current	IIn	20	40	120	μA	Vih=1.2V
Output High Voltage	VOH	1.0	-	-	V	Pull-up=10k ohm to 1.2V
Output Low Voltage	VOL	-	-	0.2	V	
Pull up Resistance	RLAS1	10	-	22	k ohm	
Capacitance	CLAS1	-	-	10	pF	
Load Capacitance	CLoad	-	-	320	pF	

MDIO Bidirectional Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Input High Voltage	VIHM	0.84	-	1.5	V	
Input Low Voltage	VILM	-0.3	-	0.36	V	
Output High Voltage	VOHM	1.0	-	1.5	V	
Output Low Voltage	VOLM	-0.3	-	0.2	V	
Pull up Resistance	RMDIO	200	-	-	Ohm	1
MDC min high/low time	THM,TLM	160	-	-	ns	
MDC Frequency	1/TCK	TBD	-	2.5	MHz	
Setup time	TDIS	10	-	-	ns	
Hold time	TDIH	10	-	-	ns	
MDIO output delay after rising edge of MDC	TPD	0	-	300	ns	
Input Capacitance	Ci	-	-	10	pF	
Bus Loading	CL	-	-	470	pF	

Note(1): The maximum value of RMDIO depends on bus loading (CL), input capacitance (Ci), and MDC frequency (1/TCK).