

# SV-SFP28-LRD1xxH

25GbE 1270nm TX/ 1330nm RX (1330nm TX/ 1270nm) SM (LC) with DDM, distance up to 10km



## Features

- Operating data rate support 24.33G and 25.78Gbps
- Two types:  
 A: 1270nm DFB Transmitter/1330nm Receiver  
 B: 1330nm DFB Transmitter/1270nm Receiver
- Up to 10km over SMF
- Single 3.3V Power supply
- Power Dissipation < 1.5W(Industrial)
- LC Connector Interface, Hot Pluggable
- Built-in dual CDR
- Compliant with Specification SFF-8402
- Build-in digital diagnostic functions
- Operating Case Temperature: Industrial: -40°C~+85°C
- Safety Certification: TUV/UL/FDA
- RoHS Compliant

## Applications

- CPRI Option 10
- 25GbE

## Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-SFP28-LRD11H</b>	Starview SFP28 Single Fiber Bi-Directional module supporting 25GbE 1270nm TX/ 1330nm RX single fiber SM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 10km. Industrial temperature range.	-4 to 2.2	-30 to -9.5	26	10	Yes
<b>SV-SFP28-LRD12H</b>	Starview SFP28 Single Fiber Bi-Directional module supporting 25GbE 1330nm TX/ 1270nm RX single fiber SM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 10km. Industrial temperature range.	-4 to 2.2	-30 to -9.5	26	10	Yes

## 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	95	%

## Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	TC	Industrial	-40	85	°C
Power Supply Voltage	VCC	3.14		3.46	V
Power Supply Current	ICC	Industrial		433	mA

## Performance Specifications – Electrical

Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
<b>Transmitter</b>						
CML Inputs (Differetial)	Vin			900	mVpp	AC coupled inputs
Input Impedance (Differential)	Zin		100		ohms	Connected directly to TX pins
Tx_DISABLE Input Voltage – High		2		Vcc+0.3	V	
Tx_DISABLE Input Voltage – Low		-0.3		0.8	V	
<b>Receiver</b>						
CML Outputs (Differetial)	Vout	300		1000	mVpp	AC coupled outputs
Rx_LOS Output Voltage – High		2.4		Vcc+0.3	V	
Rx_LOS Output Voltage – Low		-0.3		0.4	V	

## Optical and Electrical Characteristics-1270nm DFB & 1330nm PIN/TIA

Parameter	Symbol	Min.	Typical	Max.	Unit
9um Core Diameter SMF				10	Km
Data Rate				25.78	Gbps
Transmitter					
Optical Center Wavelength	$\lambda$	1260	1270	1280	nm
Spectral Width (-20dB)	$\Delta\lambda$			1	nm
Side Mode Suppression Ratio	SMSR	30			dB
Average Output Power@25.78Gb/s	PAVG	-2.0		+4.0	dBm
Optical Modulation Amplitude(OMA)	POMA	-4		2.2	dBm
Extinction Ratio	ER	3.5			dB
Transmitter Dispersion Penalty	TDP			2.7	dB
OMA minus TDP		-5			dBm
Average Launch Power of OFF Transmitter	POFF			-30	dBm
Transmitter Reflectance				-26	dB
Return Loss tolerance				20	dB
Relative Intensity Noise	RIN			-130	dB/Hz
Receiver					
Center Wavelength	$\lambda_C$	1320		1340	nm
Average Receive Power	Rpow	-13.3		2	dBm
Receiver Sensitivity *Note4	Pmin			-12	dBm
OMA Receiver Sensitivity *Note4	Pmin			-13.0	dBm
Stressed Receiver Sensitivity *Note4	RxSRS			-9.5	dBm
Receiver Overload	Pmin	2.5			dBm
Receiver Overload(OMA)	Pmax	2.2			dBm
Damage threshold		3			dBm
Receiver Reflectance				-26	dB
LOS De-Assert	LOSD			-17	dBm
LOS Assert	LOSA	-30			dBm
LOS Hysteresis		0.5			dB

Note4: Measured with data rate at 25.78Gb/s, BER less than  $5E-5$  and PRBS  $2^{31}-1$ .

## Optical and Electrical Characteristics 1330nm DFB & 1270nm PIN/TIA

Parameter	Symbol	Min.	Typical	Max.	Unit
9um Core Diameter SMF				10	Km
Data Rate				25.78	Gbps
<b>Transmitter</b>					
Optical Center Wavelength	$\lambda$	1320	1330	1340	nm
Spectral Width (-20dB)	$\Delta\lambda$			1	nm
Side Mode Suppression Ratio	SMSR	30			dB
Average Output Power@25.78Gb/s	PAVG	-2.0		+4.0	dBm
Optical Modulation Amplitude(OMA)	POMA	-4		2.2	dBm
Extinction Ratio	ER	3.5			dB
Transmitter Dispersion Penalty	TDP			2.7	dB
OMA minus TDP		-5			dBm
Average Launch Power of OFF Transmitter	POFF			-30	dBm
Transmitter Reflectance				-26	dB
Return Loss tolerance				20	dB
Relative Intensity Noise	RIN			-130	dB/Hz
<b>Receiver</b>					
Center Wavelength	$\lambda_C$	1260		1280	nm
Average Receive Power	Rpow	-13.3		2	dBm
Receiver Sensitivity *Note5	Pmin			-12	dBm
OMA Receiver Sensitivity *Note5	Pmin			-13.0	dBm
Stressed Receiver Sensitivity*Note5	RxSRS			-9.5	dBm
Receiver Overload	Pmax	2.5			dBm
Receiver Overload(OMA)	Pmax	2.2			dBm
Damage threshold		3			dBm
Receiver Reflectance				-26	dB
LOS De-Assert	LOSD			-17	dBm
LOS Assert	LOSA	-30			dBm
LOS Hysteresis		0.5			dB

Note5: Measured with data rate at 25.78Gb/s, BER less than 5E-5 and PRBS 231-1.