SV-SFP28-SRD

10Gb/s & 25Gb/s 850nm Multi-mode SFP28 Transceiver

Features

- Up to 25Gb/s data links
- 850nm VCSEL laser and PIN receiver
- Up to 100m on 50/125um MMF
- Hot-pluggable SFP footprint
- Support Digital Monitoring interface
- Class 1 laser safety certified
- Cost effective SFP28 solution, enables higher port densities and greater bandwidth
- RoHS-10 compliant and lead-free
- Single +3.3V power supply
- 2-wire interface for management specifications compliant with SFF 8472 digital diagnostic monitoring interface for optical transceivers
- All-metal housing for superior EMI performance
- Case operating temperature
  Commercial: 0 ~ +70°C
  Industrial: -40 ~ +85°C

Applications

- High-speed storage area networks
- Computer cluster cross-connect
- Custom high-speed data pipes

Ordering Information

Part mber	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFP28-SRD	Starview SFP28 module supporting dual rate 10Gbps and 25Gbps 850nm MM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 100m on 50/125um MM OM4 MM fiber at 25Gbps and 400m on 50/125um MM OM4 MM fiber at 10Gbps	-8.4 to 2.4	-10.3 to 2.4	1.9	0.1	YES
SV-SFP28-SRDH	Starview SFP28 module supporting dual rate 10Gbps and 25Gbps 850nm MM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 100m on 50/125um MM OM4 MM fiber at 25Gbps and 400m on 50/125um MM OM4 MM fiber at 10Gbps.Industrial temperature range.	-8.4 to 2.4	-10.3 to 2.4	1.9	0.1	YES

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Notes
Storage Temperature	TS	-40	85	^oC	
Power Supply Voltage	VCC	-0.5	3.6	V	
Relative Humidity (non-condensation)	RH	5	95	%	
Damage Threshold	THd	3.4		dBm	

Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Operating Case Temperature	TOP	0		70	^oC	commercial
		-40		85		Industrial
Power Supply Voltage	VCC	3.135	3.3	3.465	V	
Data Rate			25		Gb/s	
Control Input Voltage High		2		Vcc	V	
Control Input Voltage Low		0		0.8	V	
Link Distance (MMF)	D			100	m	50/125um

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
Power Consumption	p			1.0	W	
Supply Current	Icc			300	mA	
Transmitter						
Single-ended Input Voltage Tolerance	Vcc	-0.3		4.0	V	
common mode voltage tolerance		15			mV	
Differential Input Voltage Swing	Vin,pp	180		700	mVp p	
Differential Input Impedance	Zin	90	100	110	Ohm	1

Transmit Disable Assert Time				10	us	
Transmit Disable Voltage	Vdis	Vcc-1.3		Vcc	V	
Transmit Enable Voltage	Ven	Vee		Vee +0.8	V	2
Receiver						
Single-ended Input Voltage Tolerance	Vcc	-0.3		4.0	V	
Differential Output Voltage Swing	Vout,pp	300		900	mVpp	
Differential Output Impedance	Zout	90	100	110	Ohm	3
Data output rise/fall time	Tr/Tf	9.5			ps	4
LOS Assert Voltage	VlosH	Vcc-1.3		Vcc	V	5
LOS De-assert Voltage	VlosL	Vee		Vee +0.8	V	5

Notes:

1. Connected directly to TX data input pins. AC coupled thereafter.
2. Or open circuit.
3. Input 100 ohms differential termination.
4. These are unfiltered 20-80% values.
5. Loss of Signal is LVTTL. Logic 0 indicates normal operation; logic 1 indicates no signal detected

Optical Characteristics

Parameter	Symbol	Min.	Typical	Max	Unit	Notes
Transmitter						
Center Wavelength	λC	840	850	860	nm	
Optical Spectral Width	Δλ			0.6	nm	
Average Optical Power	PAVG	-8.4		2.4	dBm	1
Optical Extinction Ratio	ER	2.0			dB	
Transmitter OFF Output Power	Poff			-30	dBm	
Transmitter and Dispersion Penalty	TDP			4.3	dB	
Optical Return Loss Tolerance	ORLT			12	dB	
Transmitter Eye Mask			Compliant with IEEE802.3ae			

Receiver						
Center Wavelength	λC	840	850	860	nm	
Receiver Sensitivity in average power	Sen.			-10.3	dBm	2
Stressed Sensitivity (OMA)				-5.2	dBm	2
Input Saturation Power (overload)	Psat	2.4			dBm	
LOS Assert	LOSA	-20			dBm	
LOS De-assert	LOSD			-11	dBm	
Optical Return Loss	ORL	12			dB	
LOS Hysteresis	LOSH	0.5			dB	

Notes:

1. Class 1 Laser Safety per FDA/CDRH and IEC-825-1 regulations.

2. Measured with Light source 850nm, ER=2.0dB; BER≤5E-5 @25.78125Gbps, PRBS=2^{31} -1 NRZ.