SV-SFP28-SRDF

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

Features

- Supports 10.3125Gbps and 25.78G
- Maximum link length of 100m on OM4 at 25G
- Maximum link length of 400m on OM4 at 10G
- Power dissipation < 1.2W
- VSCEL laser and PIN receiver
- Metal enclosure for lower EMI
- 2-wire interface with integrated Digital Diagnostic monitoring
- Hot-pluggable SFP+ footprint
- Compliant with SFF 8472
- Compliant with SFP+ MSA with LC connector
- Single 3.3V power supply
- Case operating temperature range:
  Commercial: 0°C to +70°C
  Industrial: -40°C to +85°C

Applications

- Compliant to SFF-8431
- Compliant to SFF-8472
- RoHS Compliant
- 10G Ethernet
- 25G Ethernet

Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFP28-SRDF	Starview SFP28 module supporting dual rate10Gbps 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-SRDFH	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

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Storage Temperature	Ts	-40	-	85	°C	
Relative Humidity	RH	5	-	95	%	
Power Supply Voltage	VCC	-0.3	-	4	V	
Signal Input Voltage		Vcc-0.3	-	Vcc+0.3	V	

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Case Operating Temperature	Tcase	0	-	70	°C	Commercial
		-40		85	°C	Industrial
Power Supply Voltage	VCC	3.14	3.3	3.47	V	
Power Supply Current	ICC	-		300	mA	Commercial
				360	mA	Industrial
Data Rate	BR	-	10.3125 25.78	-	Gbps	
Transmission Distance	TD	-	-	100	m	@25G, OM4
		-	-	400	m	@10G, OM4
Coupled fiber			Multi mode fiber			

Optical Characteristics

Optical Characteristics for 10G Operation

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Transmitter						
Average Launch Power	POUT	-7.3		-0.5	dBm	1
Optical Wavelength	λ	840	850	860	nm	
Spectral Width (RMS)	σ			0.6	nm	
Optical Extinction Ratio@10.3125Gbps	ER	3.0			dB	
RIN	RIN			-128	dB/Hz	
Receiver						
Average Receive Power	RSENS	-9.9		-1.0	dBm	2
Wavelength Range	λ_C	840	850	860	nm	
Damage threshold(Min)		3.4			dBm	
LOS De -Assert	LOSD			-12	dBm	
LOS Assert	LOSA	-30			dBm	
LOS Hysteresis		0.5			dB	

Notes:

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

2. Measured with a PRBS 2^{31} -1 test pattern, @10.3125Gb/s, BER<10^{-12}

Optical Characteristics for 25G Operation

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Transmitter						
Average Launch Power	POUT	-8.4		2.4	dBm	1
Optical Wavelength	λ	840	850	860	nm	
Spectral Width (RMS)	σ			0.6	nm	
Optical Extinction Ratio@25.78Gbps	ER	2.0			dB	
RIN	RIN			-128	dB/Hz	
Receiver						
Average Receiver Power @25.78Gb/s	RxMAX	-10.3		2.4	dBm	2
Wavelength Range	λ_C	840	850	860	nm	
Damage Threshold		3.4			dBm	
LOS De -Assert	LOSD			-12	dBm	
LOS Assert	LOSA	-30			dBm	
LOS Hysteresis		0.5			dB	

Notes:

1. Class 1 Laser Safety per FDA/CDRH and IEC-825-1 regulations.
2. Measured with a PRBS 2^{31} -1 test pattern, @25.78Gb/s, BER<5E-5

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	NOTE
Supply Voltage	Vcc	3.14	3.3	3.46	V	
Supply Current	Icc			300	mA	
Transmitter						
Input differential impedance	Rin		100		Ω	1
Single ended data input swing	Vin,pp	180		700	mV	
Transmit Disable Voltage	VD	Vcc–1.3		Vcc	V	
Transmit Enable Voltage	VEN	Vee		Vee+ 0.8	V	2
Receiver						
Differential data output swing	Vout,pp	300		850	mV	3
LOS Fault	VLOS fault	Vcc–1.3		VccHOST	V	4
LOS Normal	VLOS norm	Vee		Vee+0.8	V	4

Notes:

1. Connected directly to TX data input pins. AC coupled thereafter.
2. Or open circuit.
3. Into 100 ohms differential termination.
4. Loss Of Signal is LVTTL. Logic 0 indicates normal operation; logic 1 indicates no signal detected.