

**Features**

- Up to 2.5Gb/s data links with DDM
- 850nm VCSEL laser transmitter and PIN photo-detector
- Hot-pluggable SFP footprint
- Duplex LC/UPC type pluggable optical interface
- Low power dissipation
- Metal enclosure, for lower EMI
- RoHS compliant and lead-free
- Single +3.3V power supply
- Support Digital Diagnostic Monitoring interface
- Compliant with SFF-8472
- Case operating temperature  
Commercial: 0°C to +70°C  
Extended: -10°C to +80°C  
Industrial: -40°C to +85°C



**Applications**

- 1x and 2x Fiber Channel
- Switch to Switch Interface
- Gigabit Ethernet
- Switched Backplane Applications
- Router/Server Interface
- Other Optical Links

**Absolute Maximum Ratings**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Storage Temperature	Ts	-40		85	°C	
Storage Ambient Humidity	HA	5		95	%	
Power Supply Voltage	VCC	-0.5		4	V	
Signal Input Voltage		-0.3		Vcc+0.3	V	
Receiver Damage Threshold		5			dBm	

**Recommended Operating Conditions**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Case Operating Temperature	Tcase	0		70	°C	SV-SFP-2GSXD
		-10		80		
		-40		85		SV-SFP-2GSXDH
Ambient Humidity	HA	5		70	%	Non-condensing
Power Supply Voltage	VCC	3.13	3.3	3.47	V	
Power Supply Current	ICC			260	mA	
Power Supply Noise Rejection				100	mVp-p	100Hz to 1MHz

Data Rate			2500/2500		Mbps	TX Rate/RX Rate
Transmission Distance				550	M	
Coupled Fiber	Multi mode fiber					50/125um MMF

### Specification of Transmitter

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Average Output Power	POUT	-10		-3	dBm	Note (1)
Extinction Ratio	ER	8.2			dB	
Center Wavelength	$\lambda_C$	830	850	860	nm	VCSEL Laser
Spectrum Bandwidth(RMS)	$\sigma$			0.85	nm	
Transmitter OFF Output Power	POff			-45	dBm	
Differential Line Input Impedance	RIN	90	100	110	Ohm	
Output Eye Mask	Compliant with G.957(class 1 laser safety)					

Note (1): Measure at 2<sup>23</sup>-1 NRZ PRBS pattern

### Specification of Receiver

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Input Optical Wavelength	$\lambda_{IN}$	770	850	860	nm	PIN-TIA
Receiver Sensitivity	PIN			-18	dBm	Note (1)
Input Saturation Power (Overload)	PSAT	-3			dBm	
Los Of Signal Assert	PA			-19	dBm	
Los Of Signal De-assert	PD	-35			dBm	Note (2)
LOS Hysteresis	PA-PD	0.5	2	6	dB	

Note (1): Measured with Light source 850nm, ER=8.2dB; BER = <math>10^{-12}</math> @PRBS=2<sup>23</sup>-1 NRZ

Note (2): When LOS de-asserted, the RX data+/- output is High-level (fixed)

### Electrical Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
<b>Transmitter</b>						
Total Supply Current	ICC			A	mA	Note (1)
Transmitter Disable Input-High	VDISH	2		V <sub>CC</sub> +0.3	V	
Transmitter Disable Input-Low	VDISL	0		0.8	V	
Transmitter Fault Input-High	VDISL	2		V <sub>CC</sub> +0.3	V	
Transmitter Fault Input-Low	VTxFH	0		0.8	V	
<b>Receiver</b>						
Total Supply Current	ICC			B	mA	Note (1)
LOSS Output Voltage-High	VLOSH	2		V <sub>CC</sub> +0.3	V	LVTTTL
LOSS Output Voltage-Low	VLOSL	0		0.8	V	

Note (1): A (TX) + B (RX) = 260mA (Not include termination circuit)

### Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFP-2GSXD	Starview SFP module Multi-rate 125Mbps to 2.488 Gbps, Fiber Optic 850nm MM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 300m	-10 to -3	-18 to -3	5	0.3	YES
SV-SFP-2GSXDH	Starview SFP module Multi-rate 125Mbps to 2.488 Gbps, Fiber Optic 850nm MM (LC) with Digital Diagnostic Monitoring (DDM), Industrial temperature range, distance up to 300m	-10 to -3	-18 to -3	5	0.3	YES