

SV-SFP-T1A

10/100/1000 Base, 100m



Features

- Up to 1.25 Gb/s bi-directional data links
- Hot-pluggable SFP footprint
- Low power dissipation(1.05W typical)
- Compact RJ-45 connector assembly
- Fully metal enclosure, for lower EMI
- RoHS compliant and lead-free
- Single +3.3V power supply
- 10/100/1000 BASE-T operation in host systems with SGMII interface
- 1.25 Gigabit Ethernet over Cat 5 cable
- Case operating temperature:
- Commercial: 0°C to +70°C
- Industrial: -40°C to +85°C

Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFP-T1A	Starview SFP 1Gbps Copper module 10/100/1000Base-TX (RJ45) with Digital Diagnostic Monitoring (DDM), distance up to 100m	NA	NA	NA	0.1	NA
SV-SFP-T1AH	Starview SFP 1Gbps Copper module 10/100/1000Base-TX (RJ45) with Digital Diagnostic Monitoring (DDM), distance up to 100m, industrial temperature range	NA	NA	NA	0.1	NA

3.3V Volt Electrical Power Interface

The SV-SFP-T1 has an input voltage range of 3.3 V +/- 5%. The 4V maximum voltage is not allowed for continuous operation

+3.3 Volt Electrical Power Interface						
Parameter	Symbol	Min.	Typ.	Max	Unit	Notes/Conditions
Supply Current	I _s		320	375	mA	1.2W max power over full range of voltage and temperature. See caution note below
Input Voltage	V _{cc}	3.13	3.3	3.47	V	Referenced to GND
Maximum Voltage	V _{max}			4	V	
Surge Current	I _{surge}			30	mA	

Caution: Power consumption and surge current are higher than the specified values in the SFP MSA

Low-Speed Signals

MOD_DEF(1) (SCL) and MOD_DEF(2) (SDA), are open drain CMOS signals. Both MOD_DEF(1) and MOD_DEF(2) must be pulled up to host_Vcc

Low-Speed Signals, Electronic Characteristics						
Parameter	Symbol	Min.	Max.	Unit	Note/Conditions	
SFP Output LOW	VOL	0	0.5	V	4.7k to 10k pull-up to host_Vcc, measured at host side of connector	
SFP Output HIGH	VOH	host_Vcc - 0.5	host_Vcc + 0.3	V	4.7k to 10k pull-up to host_Vcc, measured at host side of connector	
SFP Input LOW	VIL	0	0.8	V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector	
SFP Input HIGH	VIH	2	Vcc + 0.3	V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector	

High-Speed Electrical Interface

All high-speed signals are AC-coupled internally.

High-Speed Electrical Interface, Transmission Line-SFP						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note/Conditions
Line Frequency	fL		125		MHz	5-level encoding, per IEEE 802.3
Tx Output Impedance	Zout,TX		100		Ohm	Differential, for all frequencies between 1MHz and 125MHz
Rx Input Impedance	Zin,RX		100		Ohm	Differential, for all frequencies between 1MHz and 125MHz

High-Speed Electrical Interface, Host-SFP						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note/Conditions
Single ended data input swing	Vinsing	250		1200	mV	Single ended
Single ended data output swing	Voutsing	350		800	mV	Single ended
Rise/Fall Time	T _r ,T _f		175		psec	20%-80%
Tx Input Impedance	Zin		50		Ohm	Single ended
Rx Output Impedance	Zout		50		Ohm	Single ended

General Specifications

General Specifications						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note/Specifications
Data Rate	BR	10		1000	Mb/sec	IEEE 802.3 compatible. See Notes 2 through 4 below
Cable Length	L			100	m	Category 5 UTP. BER

Notes:

1. Clock tolerance is +/- 50 ppm
2. By default, the SV-SFP-T1 is a full duplex device in preferred master mode
3. Automatic crossover detection is enabled. External crossover cable is not required
4. 10/100/1000 BASE-T operation requires the host system to have an SGMII interface with no clocks.

Environmental Specifications

Environmental Specifications						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note/Specifications
Case Operating Temperature	Tcase	0		70	°C	
		-40		85	°C	
Storage Temperature	Tsto	-40		85	°C	Ambient temperature