# SV-SFP-ZXD16Cxx

1.25Gbps CWDM SM distance up to 160km with DDM

## Features

- Up to 1.25Gb/s data links
- DFB laser transmitter and APD receiver
- Up to 160km on 9/125μm SMF
- 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

## Applications

- Switch to Switch Interface
- Gigabit Ethernet
- Switched Backplane Applications
- Router/Server Interface
- Other Optical Links

## Ordering Information

| Part number | Description | TX Power (dBm) | RX Sens. (dBm) | Fiber Budget (dB) | Distance (km) | DDM |
|---|---|---|---|---|---|---|
| SV-SFP-ZXD16Cxx | Starview SFP module, 1000Base-ZX CWDM SM (LC), with Digital Diagnostic Monitoring (DDM), distance up to 160km | 1 to 6 | -33 to -6 | 34 | 160 | YES |

xx refers to CWDM Wavelength range 1270nm to 1610nm, xx = 27, 29... 61

## Absolute Maximum Ratings

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|---|---|---|---|---|---|---|
| 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 | |
| Ambient Humidity | HA | 5 | | 70 | % | Non-condensing |
| Power Supply Voltage | VCC | 3.13 | 3.3 | 3.47 | V | |
| Power Supply Current | ICC | | | 300 | mA | |
| Data Rate | | | 1250/1250 | | Mbps | TX Rate/RX Rate |
| Transmission Distance | | | | 160 | KM | |
| Coupled Fiber | Single mode fiber | | | | | 9/125um SMF |

## Specification of Transmitter

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Note |
|---|---|---|---|---|---|---|
| Average Output Power | POUT | 1 | | 6 | dBm | Note (1) |
| Extinction Ratio | ER | 9 | | | dB | |
| Center Wavelength | λC | (1XX0)-10 | 1XX0 | (1XX0)+10 | nm | DFB Laser Note (2) |
| Side Mode Suppression Ratio | SMSR | 30 | | | dB | |
| Spectrum Bandwidth(-20dB) | σ | | | 1 | nm | |
| Transmitter OFF Output Power | POff | | | -45 | dBm | |
| Differential Line Input Impedance | RIN | 90 | 100 | 110 | Ohm | |
| Output Eye Mask | Compliant with IEEE802.3 z (class 1 laser safety) | | | | | |

Note (1): Measure at 2^7-1 NRZ PRBS pattern

Note (2): “XX” is: 27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57,59 and 61; “Δλ” is 7.5

## Specification of Receiver

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Note |
|---|---|---|---|---|---|---|
| Input Optical Wavelength | λIN | 1270 | | 1610 | nm | APD |
| Receiver Sensitivity | PIN | | | -33 | dBm | Note (1) |
| Input Saturation Power (Overload) | PSAT | -6 | | | dBm | |
| Los Of Signal Assert | PA | | | -34 | dBm | |
| Los Of Signal De-assert | PD | -45 | | | dBm | Note (2) |
| LOS Hysteresis | PA-PD | 0.5 | 2 | 6 | dB | |

Note (1): Measured with Light source 1XX0 nm, ER=9dB; BER =<10^-12 @PRBS=2^7-1 NRZ , "XX" is: 27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57,59 and 61.
Note (2): When LOS de-asserted, the RX data+/- output is High-level (fixed)

## Electrical Interface Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Note |
|---|---|---|---|---|---|---|
| Transmitter | | | | | | |
| Total Supply Current | ICC | | | A | mA | Note (1) |
| Transmitter Disable Input-High | VDISH | 2 | | Vcc+0.3 | V | |
| Transmitter Disable Input-Low | VDISL | 0 | | 0.8 | V | |
| Transmitter Fault Input-High | VTxFH | 2 | | Vcc+0.3 | V | |
| Transmitter Fault Input-Low | VTxFL | 0 | | 0.8 | V | |
| Receiver | | | | | | |
| Total Supply Current | ICC | | | B | mA | Note (1) |
| LOSS Output Voltage-High | VLOSH | 2 | | Vcc+0.3 | V | LVTTL |
| LOSS Output Voltage-Low | VLOSL | 0 | | 0.8 | V | |

Note (1): A (TX) + B (RX) = 300mA (Not include termination circuit)

## λC Wavelength Guide

| Wavelength | Code | Wavelength | Code |
|---|---|---|---|
| 1270 nm | 27 | 1450 nm | 45 |
| 1290 nm | 29 | 1470 nm | 47 |
| 1310 nm | 31 | 1490 nm | 49 |
| 1330 nm | 33 | 1510 nm | 51 |
| 1350 nm | 35 | 1530 nm | 53 |
| 1370 nm | 37 | 1550 nm | 55 |
| 1390 nm | 39 | 1570 nm | 57 |
| 1410 nm | 41 | 1590 nm | 59 |
| 1430 nm | 43 | 1610 nm | 61 |