

Features

- Up to 4.25Gb/s data links with DDM
- DFB laser transmitter and PIN photo-detector.
- Up to 20km 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
- Support Digital Diagnostic Monitoring interface
- Single +3.3V power supply
- Compliant with SFF-8472
- Case operating temperature
Commercial: 0°C to +70°C
Extended: -10°C to +80°C



Applications

- 1000 Base-LX Ethernet
- 4xFC at 4.25Gbps
- 2xFC at 2.125 Gbps
- 1xFC at 1.0625Gbps

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 | -0.5 | | 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-4GLXD2 |
| | | -10 | | 80 | | |
| | | -40 | | 85 | | SV-SFP-4GLXD2H |
| Power Supply Voltage | VCC | 3.13 | 3.3 | 3.47 | V | |
| Power Supply Current | ICC | | | 360 | mA | |
| Power Supply Noise Rejection | | | | 100 | mVp-p | 100Hz to 1MHz |

| | | | | | | |
|-----------------------|-------------------|--|-----------|----|------|-----------------|
| Data Rate | | | 4250/4250 | | Mbps | TX Rate/RX Rate |
| Transmission Distance | | | | 20 | KM | |
| Coupled Fiber | Single mode fiber | | | | | 9/125um SMF |

Specification of Transmitter

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Note |
|-----------------------------------|--------------------|------|------|------|------|-----------|
| Average Output Power | POUT | -6 | | -1 | dBm | Note (1) |
| Extinction Ratio | ER | 6 | | | dB | |
| Center Wavelength | λ_C | 1290 | 1310 | 1330 | nm | DFB Laser |
| 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 | FC-PI requirements | | | | | |

Note (1). Measure at 2²³-1 NRZ PRBS pattern

Specification of Receiver

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Note |
|-----------------------------------|-------------|------|------|------|------|----------|
| Center Wavelength | λ_C | 1270 | | 1610 | | PIN-TIA |
| Rx Sensitivity @ 1.06Gb/s | RSENS1 | | | -21 | dBm | Note (1) |
| Rx Sensitivity @ 2.125Gb/s | RSENS2 | | | -20 | dBm | Note (1) |
| Rx Sensitivity @ 4.25Gb/s | RSENS3 | | | -18 | dBm | Note (1) |
| Input Saturation Power (Overload) | PSAT | 0.5 | | | dBm | |
| Los Of Signal Assert | PA | | | -19 | dBm | |
| Los Of Signal De-assert | PD | -30 | | | dBm | Note (2) |
| LOS Hysteresis | PA-PD | 0.5 | 2 | 6 | dB | |

Note (1). With worst-case extinction ratio. Measured with a PRBS 2²³-1 test pattern, BER < 10⁻¹².

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 | | V _{CC} +0.3 | V | |
| Transmitter Disable Input-Low | VDISL | 0 | | 0.8 | V | |
| Transmitter Fault Input-High | VTxFH | 2 | | V _{CC} +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 | | V _{CC} +0.3 | V | LVTTL |
| LOSS Output Voltage-Low | VLOSL | 0 | | 0.8 | V | |

Note (1). A (TX)+ B (RX) = 360mA (Not include termination circuit)

Ordering Information

| Part number | Description | TX Power (dBm) | RX Sens. (dBm) | Fiber Budget (dB) | Distance (km) | DDM |
|----------------|---|----------------|----------------|-------------------|---------------|-----|
| SV-SFP-4GLXD2 | Starview SFP module Multi-rate 125Mbps to 4.25Gbps Fiber Optic 1310nm SM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 20km | -6 to -1 | -18 to 0.5 | 12 | 20 | YES |
| SV-SFP-4GLXD2H | Starview SFP module Multi-rate 125Mbps to 4.25Gbps Fiber Optic 1310nm SM (LC) with Digital Diagnostic Monitoring (DDM), Industrial temperature range, distance up to 20km | -6 to -1 | -18 to 0.5 | 12 | 20 | YES |