

Features

- Hot-pluggable XFP footprint
- Supports 9.95Gb/s to 11.3Gb/s bit rates
- Supports Lineside and XFI loopback
- RoHS-6 Compliant (lead-free)
- Power dissipation <3.5W
- Case temperature range:0°C to 70°C
- Maximum link length of 100km
- Cooled 1550nm EML and APD Receiver
- Full Duplex LC connector
- No Reference Clock required
- Built-in digital diagnostic functions
- Standard bail release mechanism



Applications

- 10GBASE Ethernet
- 10G Fiber Channel
- SONET OC-192 &SDH STM 64

Absolute Maximum Ratings

| Parameter | Symbol | Min | Typ | Max | Unit | NOTE |
|----------------------------|--------|------|-----|-----|------|------|
| Maximum Supply Voltage 1 | Vcc3 | -0.5 | | 4.0 | V | |
| Maximum Supply Voltage 2 | Vcc5 | -0.5 | | 6.0 | V | |
| Storage Temperature | TS | -40 | | 85 | °C | |
| Case Operating Temperature | Tcase | 0 | | 70 | °C | |

Electrical Characteristics

| Parameter | Symbol | Min | Typ | Max | Unit | NOTE |
|--------------------------------|------------|-----------|-----|------------------|------|------|
| Main Supply Voltage | Vcc5 | 4.75 | | 5.25 | V | |
| Supply Voltage #2 | Vcc3 | 3.13 | | 3.45 | V | |
| Supply Current – Vcc5 supply | Icc5 | | | 350 | mA | |
| Supply Current – Vcc3 supply | Icc3 | | | 450 | mA | |
| Module total power | P | | | 3.5 | W | 1 |
| Transmitter | | | | | | |
| Input differential impedance | Rin | | 100 | | Ω | 2 |
| Differential data input swing | Vin,pp | 120 | | 820 | mV | |
| Transmit Disable Voltage | VD | 2.0 | | Vcc | V | 3 |
| Transmit Enable Voltage | VEN | GND | | GND+ 0.8 | V | |
| Transmit Disable Assert Time | | | | 10 | us | |
| Receiver | | | | | | |
| Differential data output swing | Vout,pp | 340 | 650 | 850 | mV | 4 |
| Data output rise time | tr | | | 38 | ps | 5 |
| Data output fall time | tf | | | 38 | ps | 5 |
| LOS Fault | VLOS fault | Vcc – 0.5 | | VccHOST | V | 6 |
| LOS Normal | VLOS norm | GND | | GND+0.5 | V | 6 |
| Power Supply Rejection | PSR | | | See Note 6 below | | 7 |

Notes:

1. Maximum total power value is specified across the full temperature and voltage range.
2. After internal AC coupling.
3. Or open circuit.
4. Into 100 ohms differential termination.

5. These are unfiltered 20-80% values
6. Loss Of Signal is open collector to be pulled up with a 4.7k – 10kohm resistor to 3.15 – 3.6V. Logic 0 indicates normal operation; logic 1 indicates no signal detected.
7. Per Section 2.7.1. In the XFP MSA Specification1.

Optical Characteristics

| Parameter | Symbol | Min | Typ | Max | Unit | NOTE |
|---|-------------|------|------|------|-------|------|
| Transmitter | | | | | | |
| Output Optical Power | Pf | 1 | | 5 | dBm | |
| Optical Wavelength | λ | 1530 | 1550 | 1570 | nm | |
| Side mode Suppression ratio | SMSR | 30 | | | dB | |
| Optical Extinction Ratio | ER | 9 | | | dB | |
| Transmitter and Dispersion Penalty | TDP | | | 3 | dB | |
| Average Launch power of OFF transmitter | POFF | | | -30 | dBm | |
| Relative Intensity Noise | RIN | | | -130 | dB/Hz | |
| Receiver | | | | | | |
| Receiver Sensitivity | Psen | | | -25 | dBm | 1 |
| Input Saturation Power (Overload) | Psat | -6 | | | dBm | |
| Wavelength Range | λ_c | 1270 | | 1610 | nm | |
| Receiver Reflectance | Rrx | | | -27 | dB | |
| LOS De-Assert | LOSD | | | -27 | dBm | |
| LOS Assert | LOSA | -37 | | | dBm | |
| LOS Hysteresis | | 0.5 | | | dB | |

Notes:

1. Measured with BER 10^{-12} @10.3Gbps, $2^{31} - 1$ PRBS.

General Specifications

| Parameter | Symbol | Min | Typ | Max | Units | NOTE |
|----------------------------|--------|------|-----|------------|-------|------|
| Bit Rate | BR | 9.95 | | 11.3 | Gb/s | |
| Bit Error Ratio | BER | | | 10^{-12} | | 1 |
| Max. Supported Link Length | LMAX | | | 100 | km | |

Notes:

1. Tested with 10.3Gbps, $2^{31} - 1$ PRBS.

Ordering Information

| Part number | Description | TX Power (dBm) | RX Sens. (dBm) | Fiber Budget (dB) | Distance (km) | DDM |
|--------------------|--|----------------|----------------|-------------------|---------------|-----|
| SV-XFP-ZR10 | Starview XFP module with Digital Diagnostic Monitoring (DDM), Data rate from 9.95Gbps to 11.3Gbps supporting OC192/ STM64/ 10G LAN/ 10G FC, 1550nm SM (LC), distance up to 100km | 1 to 5 | -25 to -6 | 26 | 100 | YES |