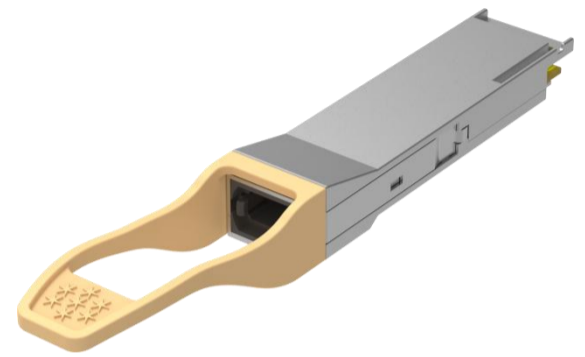


100G CPRI/eCPRI 100m QSFP28 Transceiver (I-temp)

Features

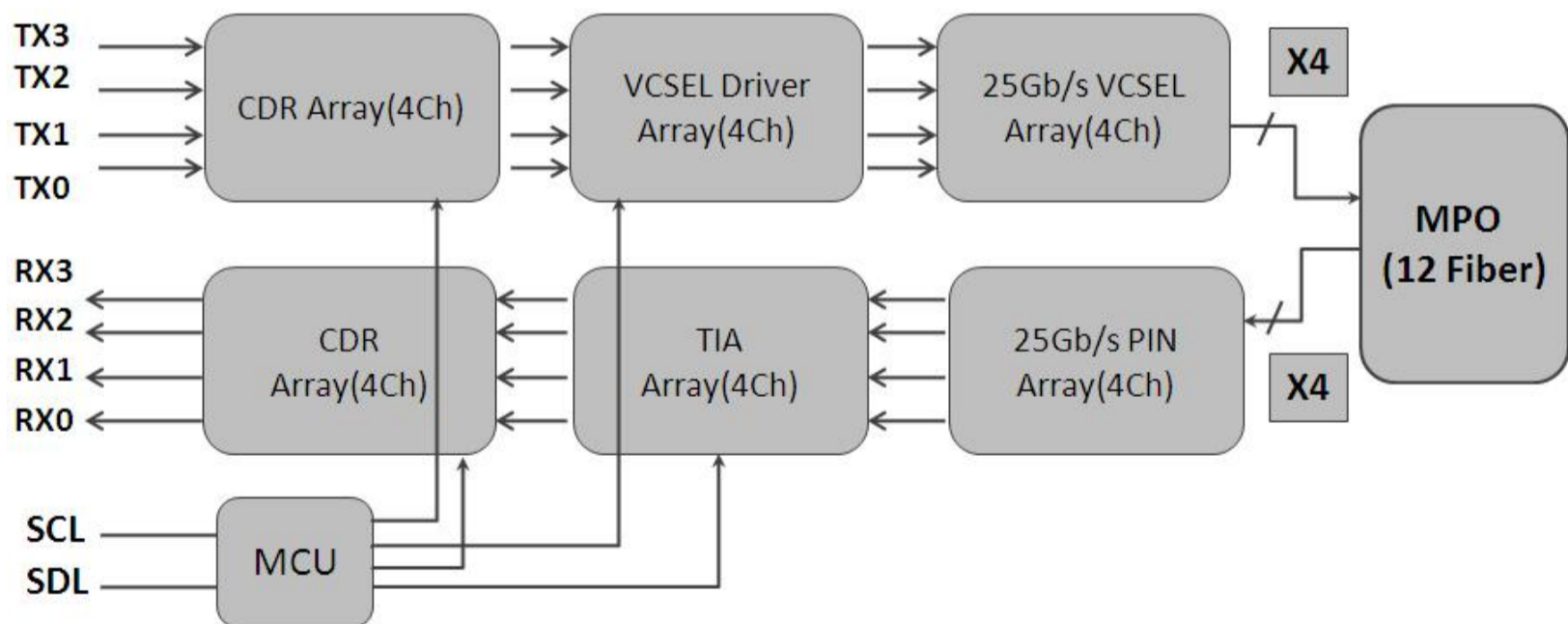
- Hot-pluggable QSFP28 form-factor
- 4 channels full-duplex transceiver module
- 4x 850nm VCSEL array and PIN photo-detector array
- Internal CDR on both transmitter and receiver channels
- Supports CDR by pass
- Compliant with QSFP28 MSA and IEEE 802.3bm 100GBASE-SR4
- Compliant with CPRI/eCPRI specifications
- Data rate up to 100Gbps
- Reach up to 70m (OM3) or 100m (OM4) over MMF
- Power consumption < 2W
- MPO12 receptacle
- Built-in digital diagnostic functions
- Operating case temperature range from -40°C to +85°C
- 3.3V power supply voltage
- RoHS compliant (lead free)



Applications

- 5G Fronthaul Network

Module Block Diagram



Ordering Information

| Part Number | Product Description |
|-----------------|--|
| FST-100G-SR4W-I | 100G CPRI/eCPRI 100m QSFP28 Transceiver (I-temp) |



Absolute Maximum Ratings

| Parameter | Symbol | Min | Max | Unit |
|----------------------------|--------|------|---------|------|
| Supply Voltage | Vcc | -0.3 | 3.6 | V |
| Input Voltage | Vin | -0.3 | Vcc+0.3 | V |
| Storage Temperature | Ts | -20 | 85 | °C |
| Case Operating Temperature | Tc | -40 | 85 | °C |
| Humidity (non-condensing) | Rh | 5 | 95 | % |

Recommended Operating Conditions

| Parameter | Symbol | Min | Typical | Max | Unit |
|----------------------------|--------|------|---------|------|------|
| Supply Voltage | Vcc | 3.13 | 3.3 | 3.47 | V |
| Operating Case Temperature | Tc | -40 | | 85 | °C |
| Data Rate Per Lane | fd | | 24.33 | | Gb/s |
| Humidity | Rh | 5 | | 85 | % |
| Power Dissipation | Pm | | | 2 | W |
| Fiber Bend Radius | Rb | 3 | | | cm |

Electrical Specifications

| Parameter | Symbol | Min | Typical | Max | Unit |
|--|------------------|---------|--------------------|------|-------|
| Differential Input Impedance | Zin | 90 | 100 | 110 | ohm |
| Differential Output Impedance | Zout | 90 | 100 | 110 | ohm |
| Differential Input Voltage Amplitude1 | ΔV_{in} | 300 | | 1100 | mVp-p |
| Differential Output Voltage Amplitude2 | ΔV_{out} | 500 | | 800 | mVp-p |
| Skew | Sw | | | 300 | ps |
| Bit Error Rate | BER | | 5×10 ⁻⁵ | | |
| Input Logic Level High | V _{IH} | 2.0 | | Vcc | V |
| Input Logic Level Low | V _{IL} | 0 | | 0.8 | V |
| Output Logic Level High | V _{OH} | Vcc-0.5 | | Vcc | V |
| Output Logic Level Low | V _{OL} | 0 | | 0.4 | V |

Notes:

1. Differential input voltage amplitude is measured between TxnP and TxnN.
2. Differential output voltage amplitude is measured between RxnP and RxnN.



Optical Characteristics

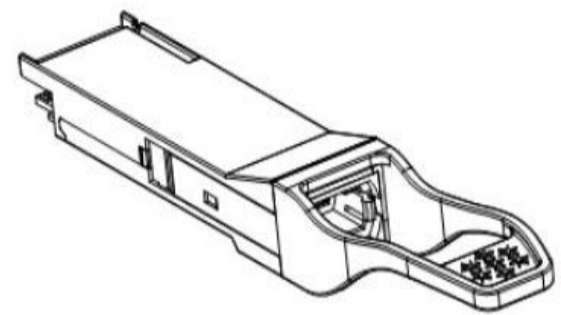
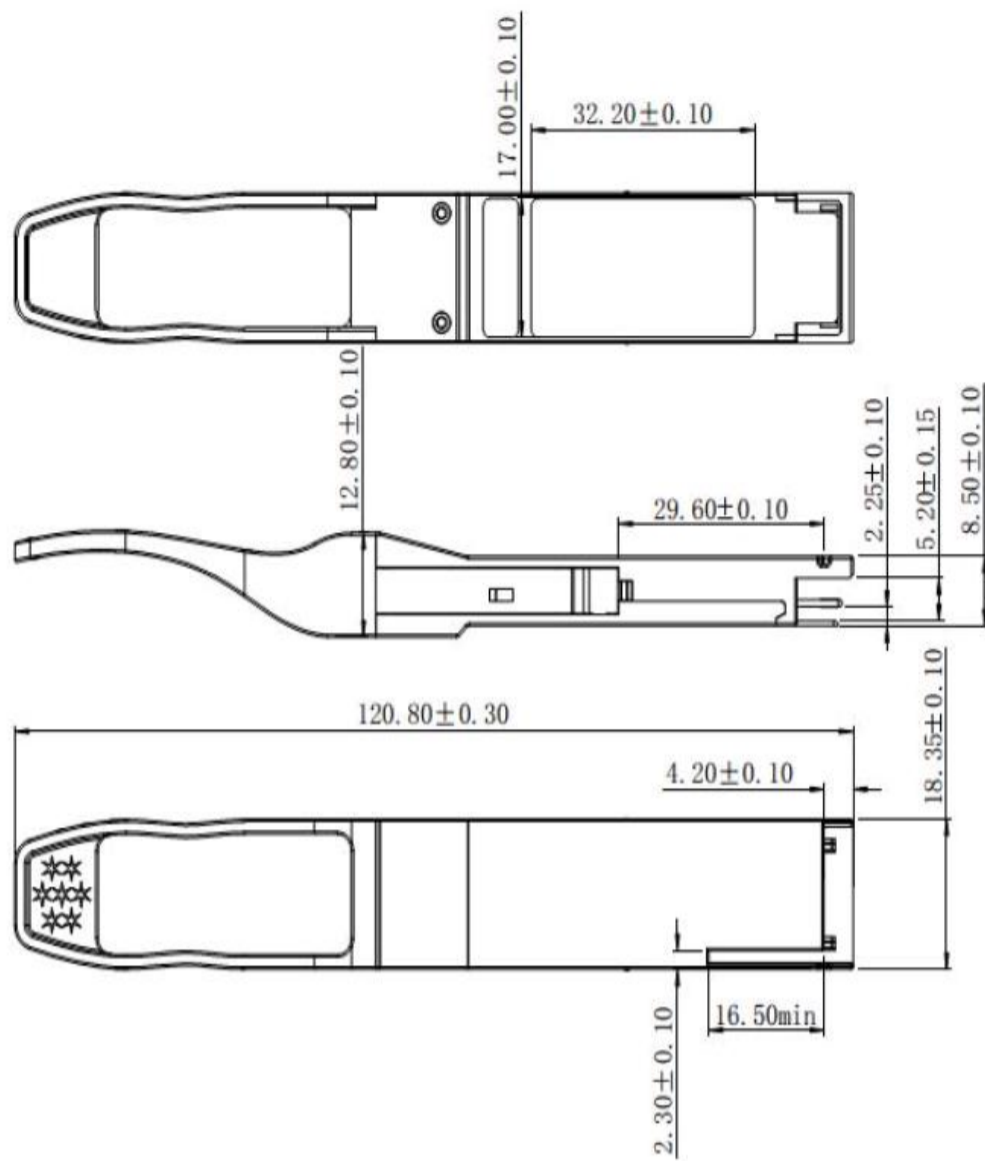
| Parameter | Symbol | Min | Typical | Max | Unit |
|---|------------------|------------------------------------|---------|------|------|
| Transmitter | | | | | |
| Center Wavelength | λ_c | 840 | 850 | 860 | nm |
| RMS Spectral Width | $\Delta\lambda$ | | | 0.6 | nm |
| Average Launch Power (each lane) | P _{out} | -8.4 | | 4.0 | dBm |
| Optical Modulation Amplitude (each lane) | OMA | -6.4 | | 3 | dBm |
| Transmitter and Dispersion Eye Closure (each lane) | TDEC | | | 4.3 | dB |
| Extinction Ratio | ER | 3 | | | dB |
| Average Launch Power of OFF Transmitter (each lane) | P _{off} | | | -30 | dB |
| Eye Mask Coordinates1: X1, X2, X3, Y1, Y2, Y3 | | {0.3, 0.38, 0.45, 0.35, 0.41, 0.5} | | | |
| Receiver | | | | | |
| Center Wavelength | λ_c | 840 | 850 | 860 | nm |
| Stressed Receiver Sensitivity in OMA2 | | | | -5.2 | dBm |
| Average Power at Receiver Input (each lane) | | -10.3 | | 2.4 | dBm |
| Receiver Reflectance | RR | | | -12 | dB |
| LOS Assert | LOSA | -30 | | | dBm |
| LOS De-Assert – OMA | LOSD | | | -7.5 | dBm |
| LOS Hysteresis | LOSH | 0.5 | | | dB |

Notes:

1. Hit Ratio = 5×10^{-5}
2. Measured with conformance test signal at TP3 for BER=5E-5



Mechanical Dimensions



unit:mm

