# 10G EPON OLT
## Optical Module

- OLT-XFP-A
- OLT-XFP-S

## Product Features

- OLT-XFP-A Support IEEE802.3av PRX30 application
- OLT-XFP-S Support IEEE802.3bk PR30 application
- Single fiber bi-directional data links
- OLT-XFP-A, 1577nm 10.3125G continuous-mode transmitter with EML laser, 1310nm 1.25G burst-mode receiver with APD-TIA, and 1490nm 1.25G continuous-mode transmitter with DFB laser
- OLT-XFP-S, 1577nm 10.3125G continuous-mode transmitter with EML laser, 1270nm 10.3125G & 1310nm 1.25G burst-mode receiver with APD-TIA, and 1490nm 1.25G continuous-mode transmitter with DFB laser
- 2-wire interface for integrated digital diagnostic monitoring
- Digital receiving signal strength indication (RSSI)
- XFP MSA package with SC/UPC receptacle optical interface
- +3.3V and +5V power supply
- Operating case temperature: 0~70°C
- RoHS6 compliance

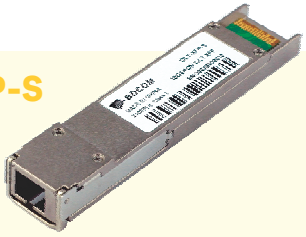
## Operating Condition

| Parameter | Unit | Min. | Typical | Max. |
|---|---|---|---|---|
| Storage Temperature | °C | -40 | | 85 |
| Operating Case Temp for C-temp | °C | 0 | | 70 |
| Operating Relative Humidity | % | 5 | | 85 |
| Power Supply Voltage(3.3V) | V | 3.15 | 3.3 | 3.45 |
| Supply Current(3.3V) | mA | | | 1000 |
| Power Supply Voltage(5V) | V | 4.75 | 5 | 5.25 |
| Supply Current(5V) | mA | | | 300 |
| Bit Rate for Tx 1577nm | Gbps | 10.3125 | | |
| Bit Rate for Rx 1270nm (only for available for OLT-XFP-S) | Gbps | 10.3125 | | |
| Bit Rate for Tx 1490nm | Gbps | 1.25 | | |
| Bit Rate for Rx 1310nm | Gbps | 1.25 | | |

# Model list

OLT-XFP-A

OLT-XFP-S



# Characteristics

## OLT-XFP-A

| Parameter | Unit | Min. | Typical | Max. |
|---|---|---|---|---|
| **1577nm 10Gbps Transmitter** | | | | |
| **TX Central Wavelength** | nm | 1575 | 1577 | 1580 |
| **Spectral Width (-20dB)** | nm | | | 1 |
| **SMSR** | dB | 30 | | |
| **Mean Launched Power** | dBm | 2 | | 5 |
| **Mean Launched Power (TX Off)** | dBm | | | -39 |
| **Extinction Ratio** | dB | 6 | | |
| **Optical Return Loss Tolerance** | dB | -15 | | |
| **Transmitter and dispersion Penalty** | dB | | | 1.5 |
| **Transmitter Mask (PRBS2$^{31}$-1@10.3125G)** | | Compliant With IEEE Std 802.3av | | |
| **1310nm 1.25G Receiver** | | | | |
| **Receive Wavelength** | nm | 1260 | 1310 | 1360 |
| **Sensitivity (PRBS2$^{7}$-1@1.25G, ER=9, ER<10$^{-12}$)** | dBm | | | -30 |
| **Overload** | dBm | -6 | | |
| **Dynamic Range** | dBm | -30 | | -6 |
| **Settling time** | ns | | | 800 |
| **SD Assert Level** | dBm | | | -31 |
| **SD De-assert Level** | dBm | -45 | | |
| **SD Hysteresis** | dB | 0.5 | | 6 |
| **1490nm 1.25Gbps Transmitter** | | | | |
| **TX Central Wavelength** | nm | 1480 | 1490 | 1550 |
| **Spectral Width (-20dB)** | nm | | | 1 |
| **SMSR** | dB | 30 | | |
| **Mean Launched Power** | dBm | 3 | | 7 |
| **Mean Launched Power (TX Off)** | dBm | | | -39 |
| **Extinction Ratio** | dB | 9 | | |
| **Optical Return Loss Tolerance** | dB | -15 | | |
| **Transmitter and dispersion Penalty** | dB | | | 2.3 |
| **Transmitter Mask(PRBS2$^{7}$-1@1.25G)** | | Compliant With IEEE Std 802.3ah | | |
| **Electrical Interface Characteristics** | | | | |
| **Data Input Swing Differential/TX** | mV | 120 | | 850 |
| **Data Output Swing Differential/RX** | mV | 400 | | 1200 |
| **Data Differential Impedance** | Ω | 90 | 100 | 110 |
| **LVTTL Output High** | V | 2.4 | | Vcc |
| **LVTTL Output Low** | V | 0 | | 0.4 |
| **LVTTL Input High** | V | 2.0 | | Vcc+0.3 |
| **LVTTL Input Low** | V | 0 | | 0.8 |

| Timing Characteristics | | | | |
|---|---|---|---|---|
| RSSI Trigger Delay (Ttd) | ns | 300 | | |
| RSSI Trigger Pulse Width (Tw) | ns | | 500 | |
| ONU Package Length (Tonu) | ns | | 1500 | |
| Internal $I^2C$ Delay ($T_{I2C}$) | us | | | 500 |

## OLT-XFP-S

| Parameter | Unit | Min. | Typical | Max. |
|---|---|---|---|---|
| **1577nm 10Gbps Transmitter** | | | | |
| TX Central Wavelength | nm | 1575 | 1577 | 1580 |
| Spectral Width (-20dB) | nm | | | 1 |
| SMSR | dB | 30 | | |
| Mean Launched Power | dBm | 2 | | 5 |
| Mean Launched Power (TX Off) | dBm | | | -39 |
| Extinction Ratio | dB | 6 | | |
| Optical Return Loss Tolerance | dB | -15 | | |
| Transmitter and dispersion Penalty | dB | | | 1.5 |
| Transmitter Mask ($PRBS2^{31}$-1@10.3125G) | | Compliant With IEEE Std 802.3av | | |
| **1270nm 10.3125G Receiver** | | | | |
| Receive Wavelength | nm | 1260 | 1270 | 1280 |
| Sensitivity ($PRBS2^{31}$-1@10.3125G, ER=6, ER<$10^{-3}$) | dBm | | | -28.5 |
| Overload | dBm | -6 | | |
| **1490nm 1.25Gbps Transmitter** | | | | |
| TX Central Wavelength | nm | 1480 | 1490 | 1550 |
| Spectral Width (-20dB) | nm | | | 1 |
| SMSR | dB | 30 | | |
| Mean Launched Power | dBm | 3 | | 7 |
| Mean Launched Power (TX Off) | dBm | | | -45 |
| Extinction Ratio | dB | 9 | | |
| Optical Return Loss Tolerance | dB | -15 | | |
| Transmitter and dispersion Penalty | dB | | | 1 |
| Transmitter Mask($PRBS2^{23}$-1@10.3125G) | | Compliant With IEEE 802.3ah | | |
| **1310nm 1.25G Receiver** | | | | |
| Receive Wavelength | nm | 1260 | 1270 | 1280 |
| Sensitivity ($PRBS2^{7}$-1@1.25G, ER=9, ER<$10^{-12}$) | dBm | | | -31 |
| Overload | dBm | -6 | | |
| Receiver Burst Mode Dynamic Range | dB | 15 | | |
| **Electrical Interface Characteristics** | | | | |
| Data Input Swing Differential/TX | mV | 120 | | 850 |
| Data Output Swing Differential/RX | mV | 400 | | 1200 |
| Data Differential Impedance | Ω | 90 | 100 | 110 |
| LVTTL Output High | V | 2.4 | | Vcc |
| LVTTL Output Low | V | 0 | | 0.4 |
| LVTTL Input High | V | 2.0 | | Vcc+0.3 |
| LVTTL Input Low | V | 0 | | 0.8 |
| **Timing Characteristics** | | | | |
| RSSI Trigger Delay (Ttd) | ns | 300 | | |
| RSSI Trigger Pulse Width (Tw) | ns | | 500 | |
| ONU Package Length (Tonu) | ns | | 1500 | |
| Internal $I^2C$ Delay ($T_{I2C}$) | us | | | 500 |

# Ordering Information

| Model | |
|---|---|
| OLT-XFP-A | 10GEPON Asymmetric OLT, PRX30, 20km, TX 1577nm 10.3125Gbps, RX 1310nm 1.25Gbps, TX 1490nm 1.25Gbps, XFP form-factor, BIDI SC/UPC Receptacle, 0~70°C Commercial Temperature |
| OLT-XFP-S | 10GEPON Symmetric OLT, PR40, 20km, TX 1577nm 10.3125Gbps, RX1270nm 10.3125Gbps & 1310nm 1.25Gbps, TX 1490nm 1.25Gbps, XFP form-factor, BIDI SC/UPC Receptacle, 0~70°C Commercial Temperature |