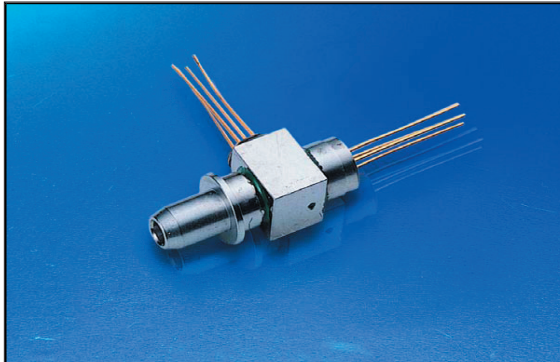


C-13/14-F06-BD-SXXL-XX



Features

- Single fiber bi-directional operation
- Laser diode with multi-quantum- well structure
- Low threshold current
- InGaAs/InP PIN Photodiode with trans-impedance amplifier
- High sensitivity with AGC*
- Differential ended output
- Single Supply Voltage +3.3V
- Integrated WDM coupler
- Un-cooled operation from -40°C to +85°C
- Hermetically sealed active component
- LC/SC BOSA
- Design for fiber optic networks
- RoHS Compliant available

Absolute Maximum Rating (Tc=25°C)

| Parameter | Symbol | Value | Unit |
|-----------------------|-----------|------------|------|
| Fiber Output Power L | P_f | 1 | mW |
| LD Reverse Voltage | V_{RLD} | 2 | V |
| PIN-TIA Voltage | V_{CC} | 4.5 | V |
| Operating Temperature | T_{opr} | -40 to +85 | °C |
| Storage Temperature | T_{stg} | -40 to +85 | °C |

(All optical data refer to a coupled 9/125µm SM fiber)

Optical and Electrical Characteristics(Tc=25°C)

| Parameter | Symbol | Min | Typical | Max | Unit | Test Condition |
|--------------------------------|--------------------|------|---------|------|----------|--|
| Laser Diode | | | | | | |
| Optical Output Power L | P_f | 0.3 | - | 0.8 | mW | CW, $I_{th} + 20mA$, kink free |
| Peak Wavelength | λ | 1290 | 1310 | 1330 | nm | CW, $P_f = P_f(\text{Min})$ |
| Spectrum Width (RMS) | $\Delta\lambda$ | - | - | 3 | nm | CW, $P_f = P_f(\text{Min})$ |
| Threshold Current | I_{th} | - | 10 | 15 | mA | CW |
| Forward Voltage | V_F | - | 1.2 | 1.5 | V | CW, $P_f = P_f(\text{Min})$ |
| Differential series resistance | r_s | - | - | 15 | Ω | |
| Rise/Fall Time | t_r / t_f | - | - | 0.3 | ns | $I_{bias} = I_{th}$, 10% to 90% |
| Monitor Diode | | | | | | |
| Monitor Current | I_m | 100 | - | - | μA | CW, $P_f = P_f(\text{Min})$, $V_{RPD} = 2V$ |
| Dark Current | I_{DARK} | - | - | 0.1 | μA | $V_{RPD} = 5V$ |
| Capacitance | C_t | - | 6 | 15 | pF | $V_{RPD} = 5V$, $f = 1MHz$ |
| Module | | | | | | |
| Tracking Error | $\Delta P_f / P_f$ | -1.5 | - | 1.5 | dB | APC, -40 to +85°C |
| Optical Cross talk | CRT | - | - | -40 | dB | |

Note:

- 1.Pin assignment can be customized.
- 2.Specifications subject to change without notice.

Detector $\lambda=1480-1500\text{nm}$

DC Electrical Characteristics($T_c=25^\circ\text{C}$)

| Parameter | Symbol | Min | Typical | Max | Unit | Test Condition |
|-----------------------------|-----------------|-----|---------|-----|------|----------------|
| Power Supply | V _{cc} | 3.0 | 3.3 | 3.6 | V | |
| Differential Output Voltage | V _d | 185 | 250 | 415 | mV | |
| Supply Current (RL=50Ω) | I _{cc} | - | 26 | 50 | mA | |

AC/Optical and Electrical Characteristics($T_c=25^\circ\text{C}$)

| Parameter | Symbol | Min | Typical | Max | Unit | Test Condition |
|-----------------------------|--------|------|---------|------|------|---|
| Detection Range | | 1480 | - | 1500 | nm | - |
| Gain @ 10 Mbps Differential | G | 1.92 | 2.5 | 3.4 | V/mW | Measure differentially with 30uAp-p signal |
| Bandwidth | BW | 700 | 920 | 1100 | MHz | - |
| Saturation Power | Psat | -3 | - | - | dBm | BER<10 ⁻¹² @1.25Gbps PRBS 2 ⁷ -1,Er=10dB |
| Sensitivity | Sens. | - | -26 | -23 | dBm | BER<10 ⁻¹² @1.25Gbps PRBS 2 ⁷ -1,Er=10dB |
| Output Resistance | Rout | 48 | 50 | 62 | ohm | - |

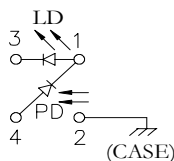
Pin Assignment

Pin Assignment

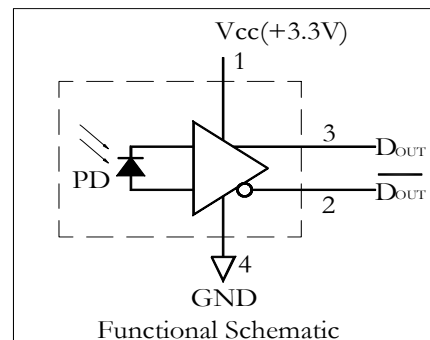
LD Pin Assignment

D Type

- Pin 1 : Laser Anode and Monitor Diode Cathode
- Pin 2 : Case Gnd
- Pin 3 : Laser Cathode
- Pin 4 : Monitor Diode Anode



PIN-TIA Pin Assignment



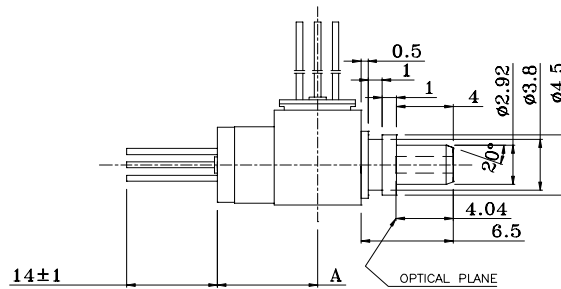
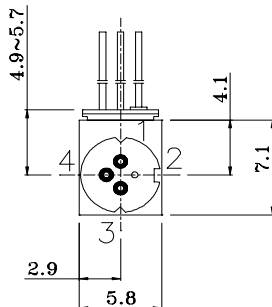
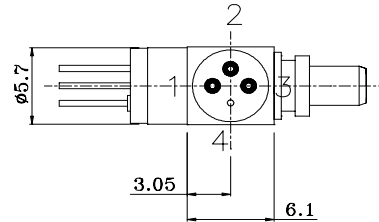
C-13/14-F06-BD-SXXL-XX

Outline Dimensions

Units in mm.

Part Number: C-13/14-F06-BD-SLCL-XX

Top view

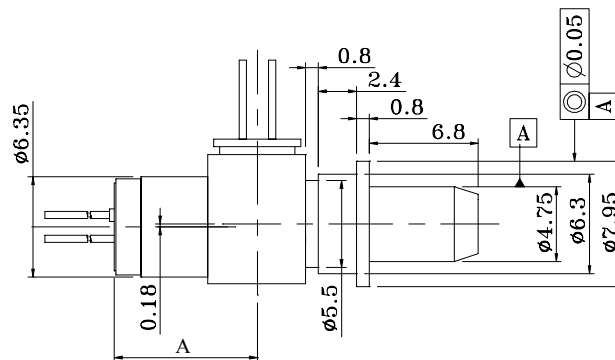
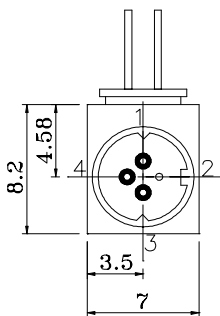
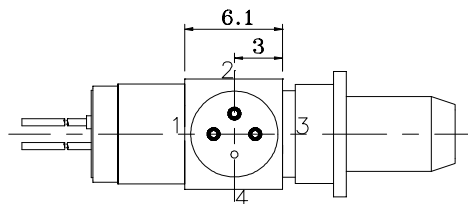


Left side view

Front view

DIMENSION : A:6.9~7.5

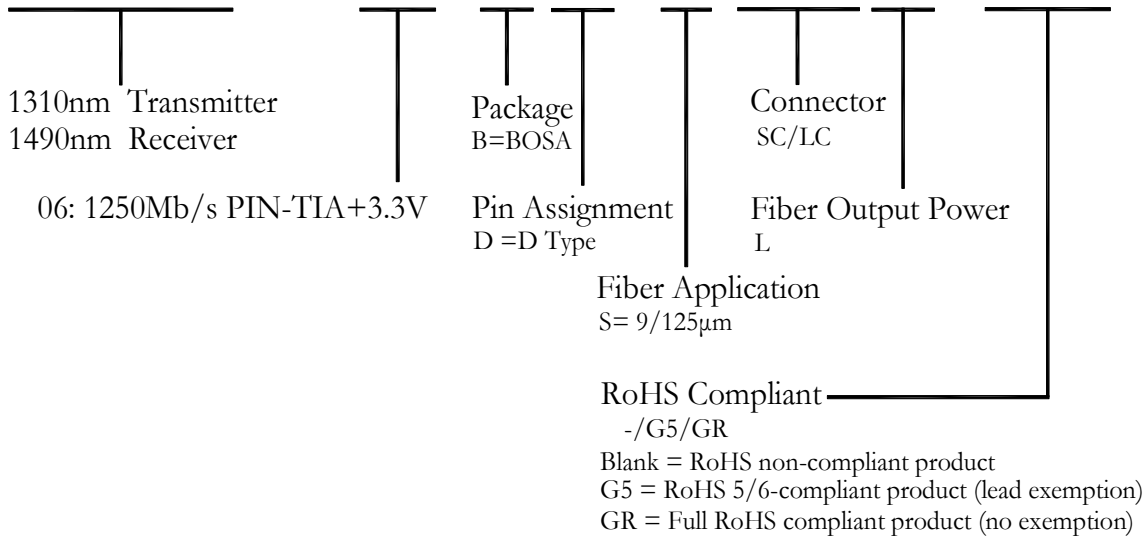
Part Number: C-13/14-F06-BD-SSCL-XX



DIMENSION A: 7.2~7.8mm

Ordering Information

C-13/14-F06-BD-SXXL-XX



Warnings

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.
Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

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