

OF3601B-L2

Preliminary

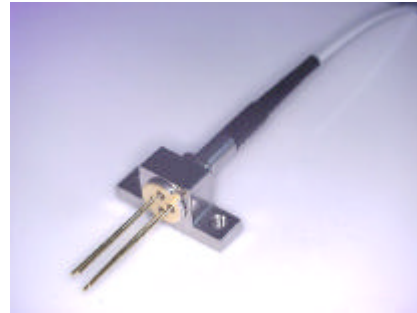
156Mbps L-band APD-preamplifier coaxial module with single mode fiber

1. DESCRIPTION

OF3601B-L2 is an optical receiver module for digital transmission systems up to 156Mbps. It has useful responsivity in L-band, so it's suitable for fiber testing and WDM applications. Package style is a hermetically sealed coaxial package with single mode fiber pigtail.

2. FEATURES

Data rate up to 156Mbps
 Responsivity in L-band : 7.2A/W@1625nm , M=10
 Wide dynamic range
 Typical sensitivity : -47.0dBm@1550nm, M=Mopt.
 Low noise
 Small coaxial package

**3. APPLICATION**

SONET OC-3/SDH STM-1 applications
 Long-haul transmission systems up to 156Mbps
 Fiber testing systems

4. OPTICAL AND ELECTRICAL CHARACTERISTICS

(Wavelength=1550nm , Ta =25°C , VCC=3.3V, unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min. | Typ. | Max. | Unit |
|---------------------------------|-----------------|--|------|------|------|------|
| APD Breakdown Voltage | VBR | ID=10μA | 40 | 60 | 80 | V |
| Temperature Coefficient of VBR* | γ | - | 0.10 | 0.15 | 0.25 | %/°C |
| APD Responsivity | RAPD | λ=1550nm, VB=35 to 78V, M=10 | 8.0 | 8.5 | -- | A/W |
| | | λ=1625nm, VB=35 to 78V, M=10 | 6.5 | 7.2 | -- | |
| Responsivity | R | RL>500Ω, M=10, Pin=-45dBm | 80 | 120 | -- | kV/W |
| Bandwidth | BW | f3dB, RL>500Ω, M=10 | 120 | 130 | -- | MHz |
| Sensitivity | Prmin | 155.52Mbps, NRZ, BER=10 ⁻¹⁰ , PRBS2 ²³ -1, M=Mopt. | -- | -47 | -46 | dBm |
| Overload | Prmax | 155.52Mbps, NRZ, BER=10 ⁻¹⁰ , PRBS2 ²³ -1, M=3 | -7 | -5 | -- | dBm |
| Supply Current | I _{CC} | Pin = 0mW | -- | 19 | 24 | mA |
| Recommended TIA Supply Voltage | V _{CC} | - | 3.0 | 3.3 | 3.6 | V |
| Optical Return Loss | ORL | - | -- | -- | -27 | dB |

*) Temperature Coefficient of Breakdown Voltage.

$$\gamma = \frac{V_B(25^\circ\text{C} + \Delta T^\circ\text{C}) - V_B(25^\circ\text{C})}{V_B(25^\circ\text{C}) \cdot \Delta T^\circ\text{C}} \times 100 (\% / ^\circ\text{C})$$

5. ABSOLUTE MAXIMUM RATING

(Ta = 25 °C, unless otherwise specified)

| Parameter | Symbol | Rating | Unit |
|-----------------------|--------|------------|------|
| APD Supply Voltage | VR | 0 to VBR | V |
| TIA Supply Voltage | VCC | 4.5 | V |
| APD Forward Current | IF | 4 | mA |
| APD Reverse Current | IR | 1(cw) | mA |
| Operating Temperature | Top | -40 to +85 | °C |
| Storage Temperature | Tstg | -40 to +85 | °C |

6. CONNECTOR AND FIBER SPECIFICATIONS

| Parameter | Specifications | Unit |
|---------------------|----------------|------|
| Type | SM | -- |
| Mode Field Diameter | 10 | μm |
| Cladding Diameter | 125 | μm |
| Jacket Diameter | 900 | μm |
| Length | 1 (Min.) | m |
| Connector | FC/PC or SC/PC | -- |

7. ORDERING INFORMATION

OF3601 B - L2 - _ _ _ _

Fiber

B: SM

FlangeAF: Angled
SF: StraightConnectorFC
SC

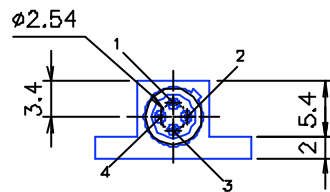
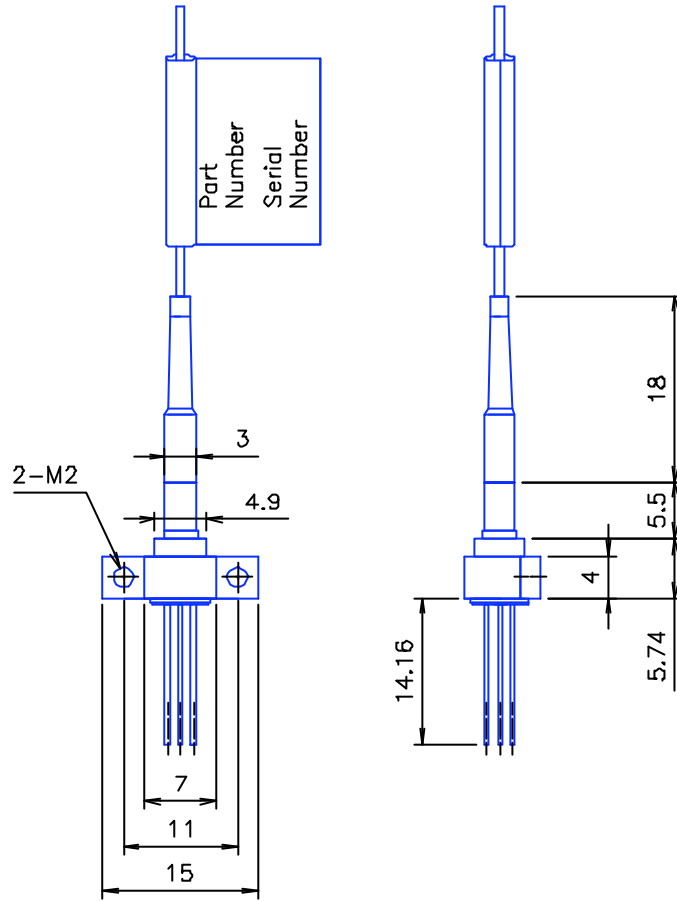
ex.) OF3601B-C2-L-AFFC

OF3601 with SM fiber, angled flange,
and FC connector.

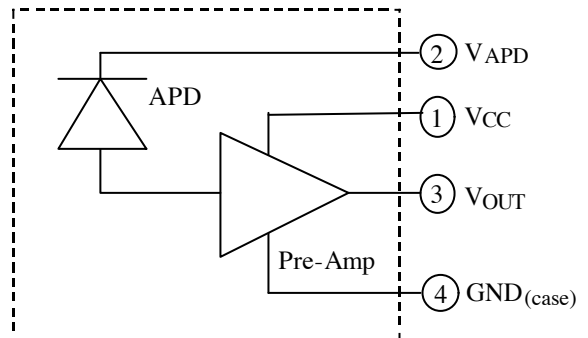
8.OUTLINE DRAWING

All dimensions in millimeters

Package No. OF3601B-L2-AF__ (Unit: mm)

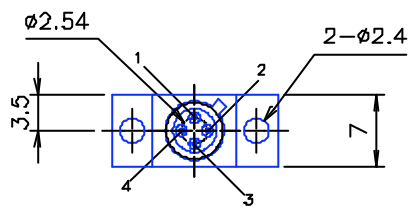
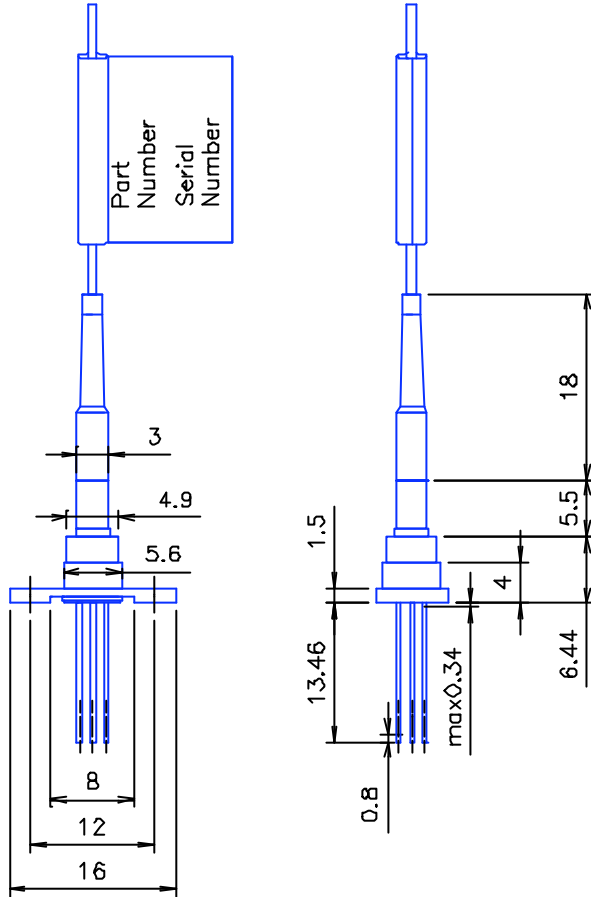


| Pin Connection | |
|----------------|----------------|
| 1 | VCC |
| 2 | VAPD |
| 3 | VOUT(Inverted) |
| 4 | GND(case) |

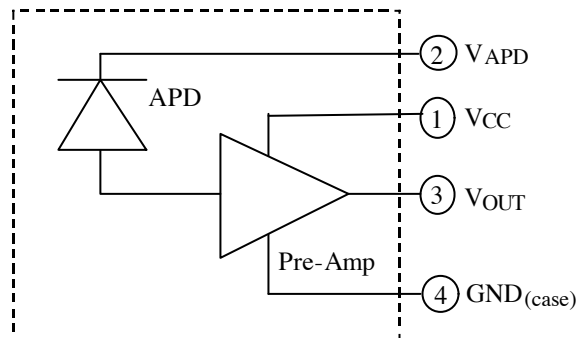


All dimensions in millimeters

Package No. OF3601B-L2-SF__ (Unit: mm)

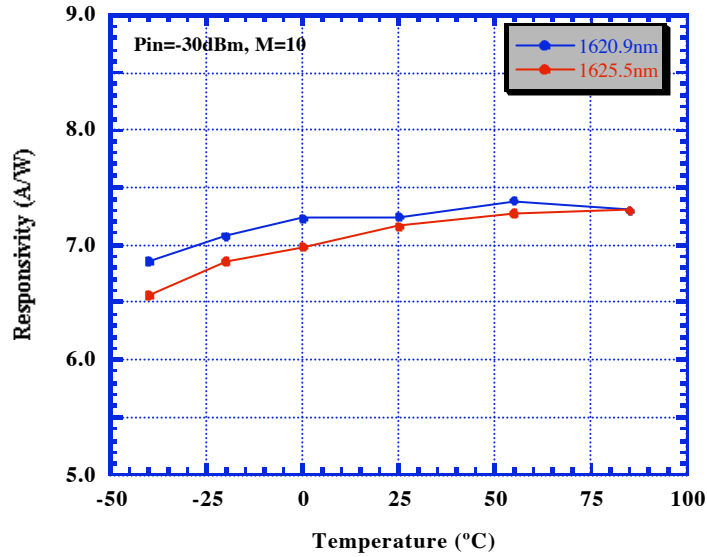


| Pin Connection | |
|----------------|----------------|
| 1 | VCC |
| 2 | VAPD |
| 3 | VOUT(Inverted) |
| 4 | GND(case) |



9. Typical Operating Characteristics

(1) APD Responsivity in L-band



(2) BER characteristics

