

DWDM 14PIN Butterfly Analog Laser for CATV

1. Features:

- Standard ITU Grid wavelengths;
 - Advanced analog chip design;
 - Reduced equipment requirements in the Hub
 - Wide temperature range;
- RoHS Compliant.

2. Applications

- CATV Broadcast networks;
- Networks with limited fiber.

3. Absolute Maximum Ratings:

| Parameter | Symbol | Condition | Min. | Max. | Unit |
|--------------------------|--------|----------------------|------|------|------|
| Laser forward DC current | - | 60 seconds | - | 150 | mA |
| Average RF input power | - | dBmV | - | 62 | dBmV |
| PD Reverse voltage | VRPD | CW | - | 10 | V |
| LD Reverse voltage | VRLD | CW | - | 1 | V |
| ESD | - | HBM:R=1500Oh,C=100pF | -500 | 500 | V |
| TEC Current | ITEC | CW | -1.5 | 1.5 | A |
| Operating temperature | TOP | Case temperature | -40 | +85 | °C |
| Storage temperature | TSTG | Ambient temperature | -40 | +85 | °C |

4. Optical-Electro Characteristics(25 °C, IF =IOP):

| Parameter | Symbol | Condition | Min. | Typ. | Max. | Unit |
|--------------------------------------|-----------|-----------------|--------------------------------|------|------|------|
| Operating wavelength | λ | ITU Grid | See ITU Grid Channel Numbering | | | nm |
| Optical output power | PF | - | 6 | - | 20 | mW |
| Threshold current | ITH | 25 °C | - | - | 20 | mA |
| Operating current | IOP | - | - | - | 120 | mA |
| Operating voltage | VOP | 25 °C | - | - | 2.5 | V |
| Side mode suppression ratio | SMSR | - | 30 | - | - | dB |
| Optical return loss | ORL | - | 40 | - | - | dB |
| Optical isolation | ISO | 25 °C | 30 | - | - | dB |
| Polarization extinction ratio | ER | PM fiber | 18 | - | - | dB |
| MPD Dark current | ID | IOP =0mA,VRM=5V | - | - | 0.2 | uA |
| MPD Current relative to output power | - | VRM=5V | 10 | - | 200 | mA/W |

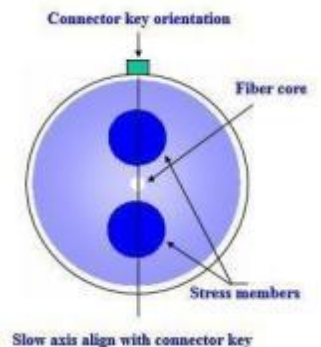
| | | | | | | |
|-------------------------|------|---------------|------|------|------|-----|
| TEC Voltage | VTEC | - | -2.5 | - | 3.8 | V |
| Bandwidth | BW | - | - | 2.5 | - | Ghz |
| Thermistor resistance | RTH | 25 °C | 9.5 | 10 | 10.5 | kΩ |
| Thermistor B- value | β | 25 °C / 80 °C | - | 3950 | - | K |
| Carrier-to-Noise ratio | CNR | - | 55 | - | - | dB |
| Composite second- order | CSO | - | - | - | -55 | dBm |
| Composite triple beat | - | - | - | - | -64 | dBc |

5. ITU Grid Channel Numbering

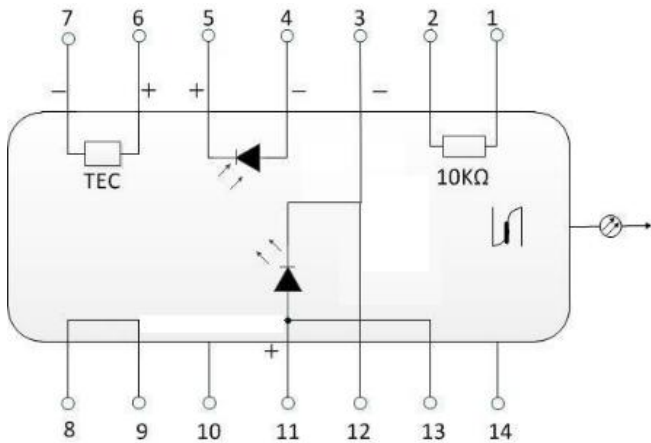
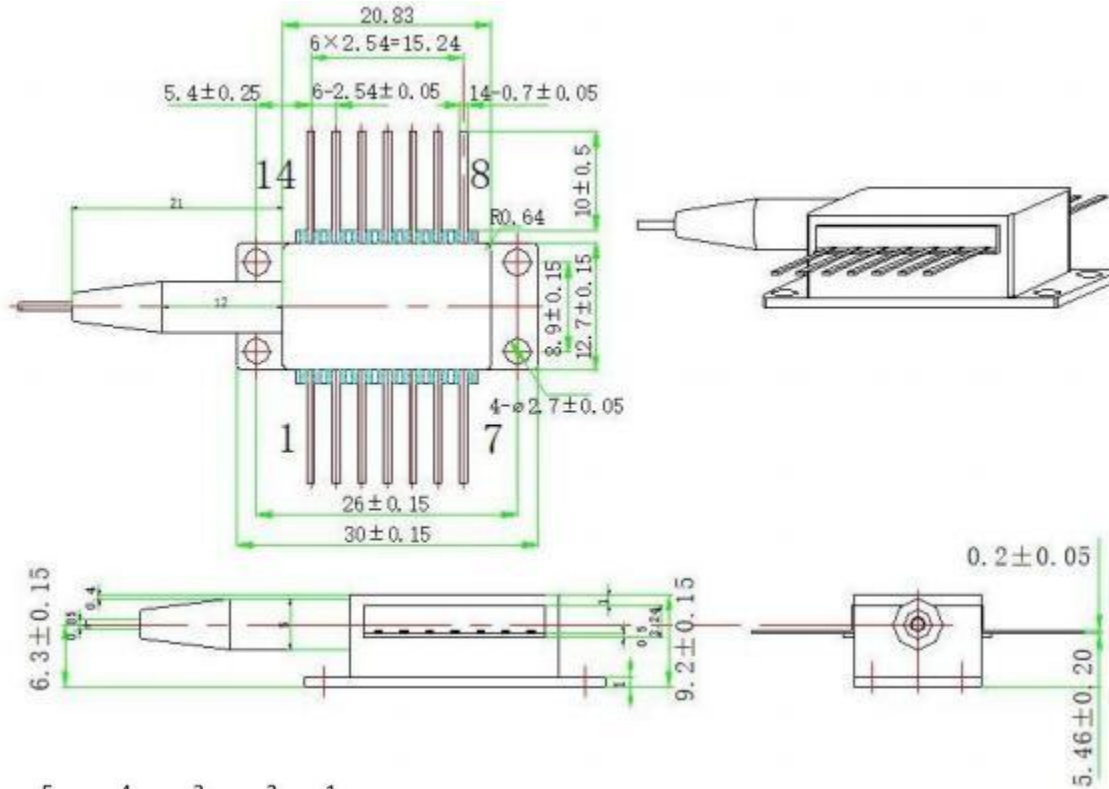
| Channel | Wavelength(nm) | Channel | Wavelength(nm) | Channel | Wavelength(nm) |
|---------|-----------------|---------|-----------------|---------|-----------------|
| 64 | 1526.44 | 47 | 1539.77 | 30 | 1553.33 |
| 63 | 1527.22 | 46 | 1540.56 | 29 | 1554.13 |
| 62 | 1527.99 | 45 | 1541.35 | 28 | 1554.94 |
| 61 | 1528.77 | 44 | 1542.14 | 27 | 1555.75 |
| 60 | 1529.55 | 43 | 1542.94 | 26 | 1556.56 |
| 59 | 1530.33 | 42 | 1543.73 | 25 | 1557.36 |
| 58 | 1531.12 | 41 | 1544.53 | 24 | 1557.17 |
| 57 | 1531.90 | 40 | 1545.32 | 23 | 1558.98 |
| 56 | 1532.68 | 39 | 1546.12 | 22 | 1559.79 |
| 55 | 1533.47 | 38 | 1546.92 | 21 | 1560.61 |
| 54 | 1534.25 | 37 | 1547.72 | 20 | 1561.42 |
| 53 | 1535.04 | 36 | 1548.51 | 19 | 1562.23 |
| 52 | 1535.82 | 35 | 1549.32 | 18 | 1563.05 |
| 51 | 1536.61 | 34 | 1550.12 | - | - |
| 50 | 1537.40 | 33 | 1550.92 | - | - |
| 49 | 1538.19 | 32 | 1551.72 | - | - |
| 48 | 1538.98 | 31 | 1552.52 | - | - |

6. Optical Fiber Specifications:

| Parameters | Description |
|--|---------------------|
| Fiber Type | SMF-28e or PMF-1550 |
| Pigtail Type | 900μm loose tube |
| Pigtail Length | 1.0±0.1m |
| Connector Type | FC/APC |
| Note: The PM fiber and the connector key are aligned to the slow axis. | |

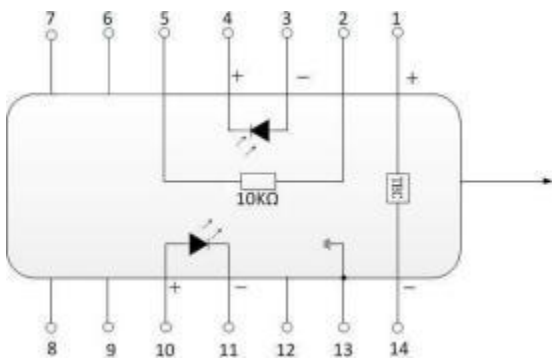
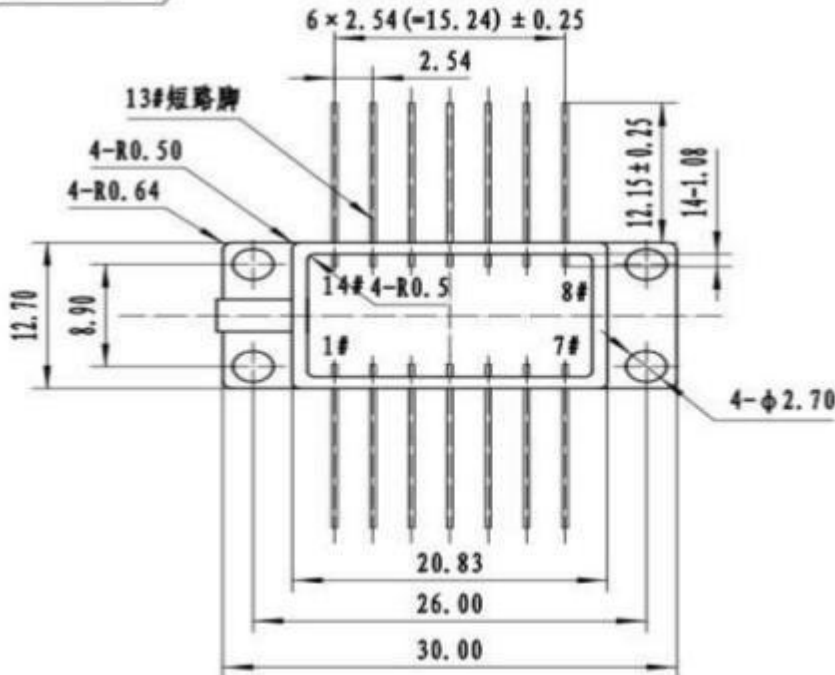
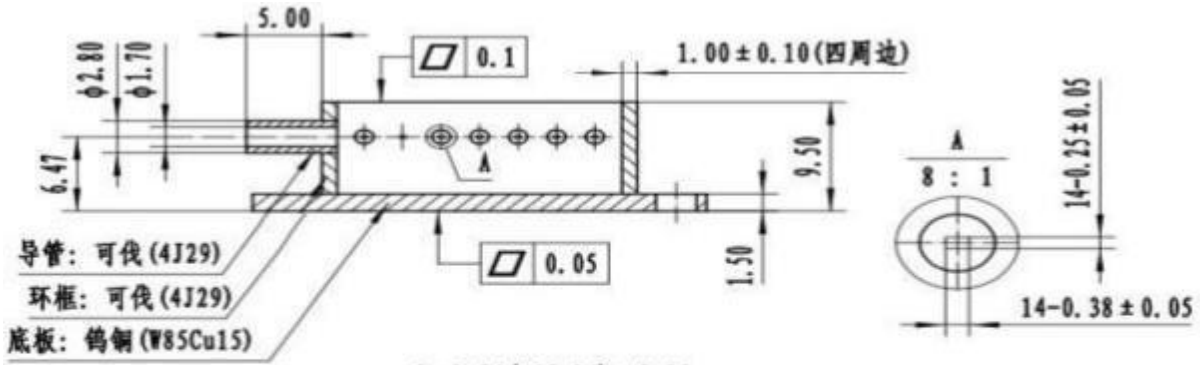


7. Type 1 Package Drawing & PIN-OUT Definition (Unit: mm) :



| PIN | Description | PIN | Description |
|-----|---------------|-----|------------------|
| 1 | Thermistor | 14 | NC |
| 2 | Thermistor | 13 | Laser Anode(+) |
| 3 | LD Cathode(-) | 12 | Laser Cathode(-) |
| 4 | PD Anode (+) | 11 | Laser Anode(+) |
| 5 | PD Cathode(-) | 10 | NC |
| 6 | TEC(+) | 9 | Case Ground |
| 7 | TEC(-) | 8 | Case Ground |

8. Type 2 Package Drawing&PIN-OUT Definition(Unit:mm)



| PIN | Description | PIN | Description |
|-----|------------------------|-----|-------------------|
| 1 | TEC(+) | 14 | TEC(-) |
| 2 | Thermistor | 13 | Case Ground |
| 3 | PD Monitor Anode (-) | 12 | NC |
| 4 | PD Monitor Cathode (+) | 11 | Laser Cathode (-) |
| 5 | Thermistor | 10 | Laser Anode (+) |
| 6 | NC | 9 | NC |
| 7 | NC | 8 | NC |

9. Ordering Information:

| BFLD | -XXXX | -XX | -XX | -XX | (-X) |
|------------|------------|------------------------|--|-------------------------------------|---------------------------|
| Laser type | Wavelength | Output power | Fiber type | Connector type | PIN-OUT |
| DFB Laser | CHXX: DWDM | 10: 10mW Customized | SM : Single mode PM : Polarization maintaining | FA : FC/APC SA : SC/APC Other | NULL: Type 1 2: Type 2 |

E.g.: BFLD-DWDM-10SM-FA (Order information: DWDM DFB Laser diode with 10mW output power, and SM fiber with FC/APC connector, PIN-OUT is Type 1).