

## 830nm OCT Butterfly Superluminescent Laser Emitting Diode

830nm OCT Superluminescent Laser Emitting Diode (SLED) is a semiconductor optoelectronic product which can output high quality stable Broadband laser light by the pigtail. It's widely used in biomedical imaging application like Optical Coherence Tomography (OCT) system, Fiber Optic Sensor and Broadband Application. The OCT Butterfly SLED with TEC built in to control the temperature, isolator built in to avoid the back reflection laser light. The butterfly SLED Laser driver is available upon request.

### Application:

OCT System  
Fiber Optic Sensor  
Broadband Application  
Testing System

### Features:

Low Coherence  
Low Polarization Sensitivity  
TEC, PD and Isolator Built In  
High Reliability



### Absolute Maximum Ratings:

| Parameter             | Symbol         | Value   | Unit |
|-----------------------|----------------|---------|------|
| LD Forward Current    | I <sub>f</sub> | 250     | mA   |
| LD Reverse Voltage    | V <sub>r</sub> | 2       | V    |
| Operating Temperature | T              | -20~+65 | °C   |
| Storage Temperature   | T              | -40~+85 | °C   |
| Solder Temperature    | T              | 260     | °C   |
| Lead Solder Time      |                | 10      | S    |

Notice: Above specifications should not be exceeded, or the LD will be seriously damaged.

### Optical and Electrical Specification:

| Parameter               | Symbol           | Min. | Tpy. | Max. | Unit       | Test Condition                      |
|-------------------------|------------------|------|------|------|------------|-------------------------------------|
| Center Wavelength       | $\lambda_c$      | 820  | 840  | 860  | nm         |                                     |
| Optical Power           | P <sub>o</sub>   | 10   |      |      | mW         | CW, I <sub>f</sub> =180mA           |
| Spectral Ripple         | $\Delta$         |      | 0.1  | 0.2  | dB         | CW, I <sub>f</sub> =I <sub>op</sub> |
| Laser Operating Current | I <sub>op</sub>  |      | 180  | 220  | mA         | CW, P <sub>o</sub> =10mW            |
| Laser Reverse Voltage   | V <sub>r</sub>   |      |      | 2    | V          | CW                                  |
| TEC Current             | I <sub>tec</sub> |      |      | 2    | A          |                                     |
| TEC Voltage             | V <sub>tec</sub> |      |      | 3.5  | V          |                                     |
| Thermistor Current      | I <sub>the</sub> |      |      | 1.2  | A          |                                     |
| Thermistor Voltage      | V <sub>the</sub> |      |      | 3.2  | V          |                                     |
| Thermistor Resistance   | R <sub>the</sub> | 9.5  | 10   | 10.5 | K $\Omega$ |                                     |
| Thermistor Temperature  | T                |      |      | 100  | °C         |                                     |
| Fiber Type              | HI 780 Fiber     |      |      |      |            |                                     |

Notice: Above specifications are tested at in room temperature at 23°C.

Specifications may change without notice.

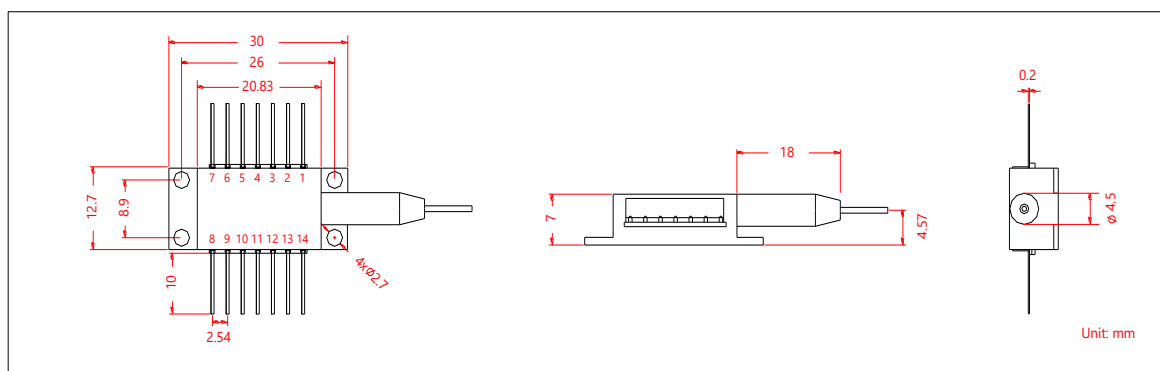
**Drawing:****Pin Information:**

Diagram illustrating the pin configuration and internal components of a 14-pin connector assembly. The pins are numbered 1 through 14, with 1-7 on the top and 8-14 on the bottom. The internal components and their connections are as follows:

- Pin 1:** Connected to the positive terminal (+) of the TEC.
- Pin 2:** Connected to the negative terminal (-) of the TEC.
- Pin 3:** Connected to one terminal of the 10KΩ resistor.
- Pin 4:** Connected to the other terminal of the 10KΩ resistor.
- Pin 10:** Connected to the positive terminal (+) of the LD.
- Pin 11:** Connected to the negative terminal (-) of the LD.

| Type A |            |    |             |
|--------|------------|----|-------------|
| 1      | TEC (+)    | 14 | TEC (-)     |
| 2      | Thermistor | 13 | Case Ground |
| 3      | NC         | 12 | NC          |
| 4      | NC         | 11 | LD (-)      |
| 5      | Thermistor | 10 | LD (+)      |
| 6      | NC         | 9  | NC          |
| 7      | NC         | 8  | NC          |

**Ordering Information (Part Number):**SMSLED-**WWW-OO-FF-J-LL-P-CC**

| <b>WWW</b>    | <b>OO</b>     | <b>P</b>       | <b>FF</b>   | <b>J</b>                                     | <b>LL</b>    | <b>CC</b>    |
|---------------|---------------|----------------|-------------|----------------------------------------------|--------------|--------------|
| Wavelength    | Optical Power | Pin Assingment | Fiber Type  | Fiber Jacket                                 | Fiber Length | Connector    |
| 830 - 830nm   | 01 - 1mW      | A - Type A     | H7 - HI 780 | B - 250um Bare Fiber<br>L - 900um Loose Tube | 05 - 0.5m    | NE - None    |
| 840 - 840nm   | 05 - 5mW      |                |             |                                              | 10 - 1.0m    | FA - FC/APC  |
| 850 - 850nm   | 10 - 10mW     |                |             |                                              | 15 - 1.5m    | FU - FC/UPC  |
| SSS - Specify | SS - Specify  |                |             |                                              | 20 - 2.0m    | LA - LC/APC  |
|               |               |                |             |                                              | SS - Specify | LU - LC/UPC  |
|               |               |                |             |                                              |              | SA - SC/APC  |
|               |               |                |             |                                              |              | SU - SC/UPC  |
|               |               |                |             |                                              |              | SS - Specify |

**Notification:**

1. The Semiconductor Optoelectronic products are particularly sensitive of ESD (electro-static discharge), it's recommended to use grounded anti-static wrist straps and grounded anti-static mats before handling the products.
2. Never plug or unplug the products under a living circuit, setting the current supply to zero before switching on or switching off the laser diode.
3. Always take anti-static measures to storage the products when not in use.

