



## TLC-P85A546-10

### High Speed 10Gb/s 850nm VCSEL LC-TOSA with Monitor PD

#### Description

The Lasermate TLC-P85A546-10 is an 850nm wavelength, Vertical Cavity Surface Emitting Laser (VCSEL) LC-TOSA designed for use in 10Gbps data rate operation.



#### Features

- LC-type optical sub-module
- Optimized for fiber optic application.
- Support up to 10.3125Gbps data rate operation.
- Packaged with monitor photodiode (PD)
- Operating temperature -10 to 85 °C

#### Applications

- 10G BASE-SR

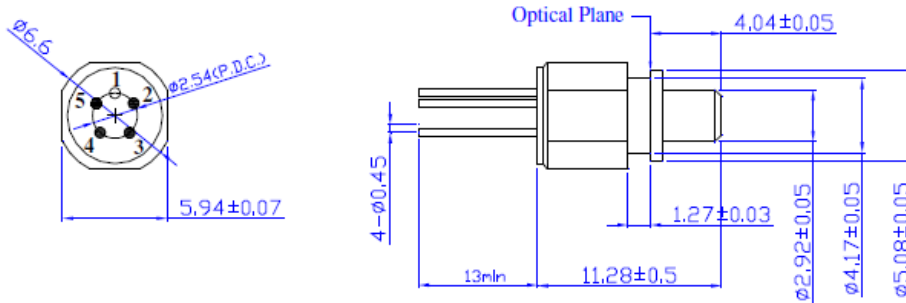
#### Specifications

| Absolute Maximum Ratings   |      |      |      |            |
|----------------------------|------|------|------|------------|
| Parameters                 | Min. | Max. | Unit | Conditions |
| Storage Temperature        | -40  | 100  | °C   |            |
| Operating Temperature      | -10  | 85   | °C   |            |
| Lead Solder Temperature    |      | 260  | °C   | 10 seconds |
| Continuous Forward Current |      | 10   | mA   |            |
| Continuous Reverse Voltage |      | 10   | V    |            |

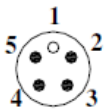
| Electro-Optical Characteristics (CW @ T=25°C unless otherwise specified) |                 |      |      |      |       |                                |
|--|-----------------|------|------|------|-------|--------------------------------|
| Parameters   | Symbol          | Min. | Typ. | Max. | Unit  | Conditions                     |
| Threshold Current  | $I_{th}$        |      | 1.0  | 1.5  | mA    | CW                             |
| Slope Efficiency   | $\eta$          | 0.09 |      | 0.2  | mW/mA | $I_F=6$ mA                     |
| Wavelength   | $\lambda_P$     | 840  | 850  | 860  | nm    | $I_F=6$ mA                     |
| Fiber output power   | $P_f$           | 0.4  |      | 1.0  | mW    | $I_F=6$ mA                     |
| Forward Voltage  | $V_F$           | 1.6  | 1.8  | 2.4  | V     | $I_F=6$ mA                     |
| Rise Time / Fall Time  | $T_r / T_f$     |      | 50   |      | ps    | $I_F=6$ mA, ER= 5 dB           |
| Spectral width (RMS)   | $\Delta\lambda$ |      |      | 0.45 | nm    | $I_F=6$ mA, RMS, CW            |
| Monitor Current  | $I_M$           | 30   |      |      | uA    | $V_R=5$ V, $P_{OC}=600$ uW, CW |

Note: All parameters are measured with MM 62.5/125um fiber.

### Outline Dimensions (unit: mm)



### Bottom View



### Pin Configuration

| Number | Function      |
|--------|---------------|
| 1      | Case          |
| 2      | VCSEL Anode   |
| 3      | PD Cathode    |
| 4      | PD Anode      |
| 5      | VCSEL Cathode |

Note: Specifications are subject to change without notice.