

# TTL-3G13-304

## 2.5Gbps LC Connectorized 1310nm FP Laser Diode

### FEATURES:

- Pre-aligned LC-type receptacle for optical fiber communication.
- Design for Small Form Factor transceivers.
- Low threshold current and low operating current.
- Support from DC to 2.5Gbps data rate operation.



### ELECTRO-OPTICAL CHARACTERISTICS: ( $T_A = 25^{\circ}\text{C}$ , unless otherwise specified)

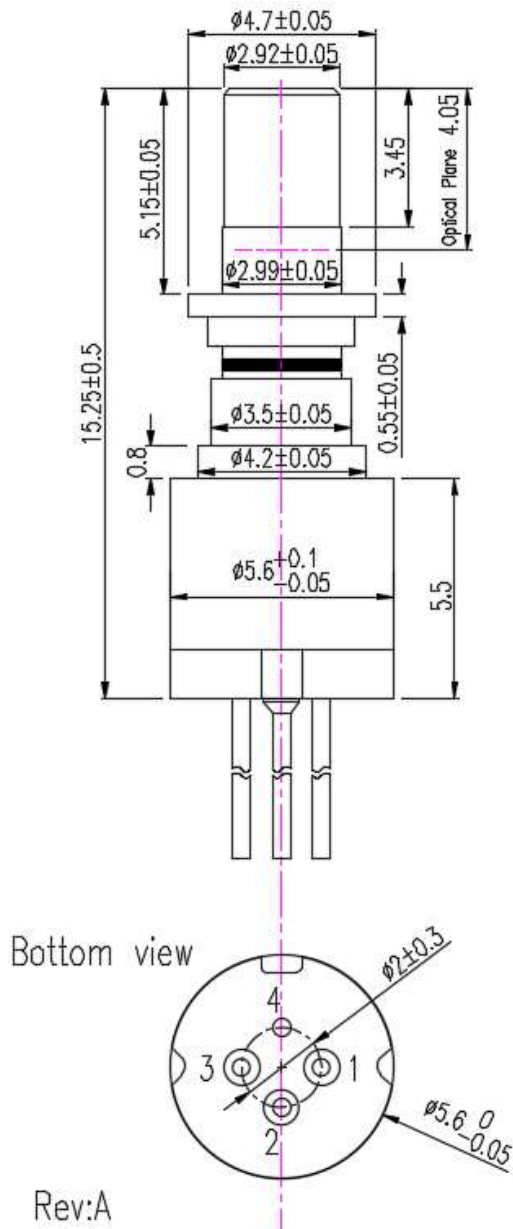
| PARAMETERS                | SYMBOL          | MIN    | TYP  | MAX   | UNIT          | TEST CONDITIONS                                                                                     |
|---------------------------|-----------------|--------|------|-------|---------------|-----------------------------------------------------------------------------------------------------|
| Threshold Current         | $I_{th}$        |        | 10   | 15    | mA            | CW                                                                                                  |
| Forward Voltage           | $V_F$           |        | 1.1  | 1.6   | V             | CW, $I_F = I_{th} + 20\text{mA}$                                                                    |
| Slope Efficiency          | $\eta$          | 0.0225 |      | 0.045 | mW/mA         | CW, $I_F = I_{th} + 20\text{mA}$                                                                    |
|                           |                 | 0.015  |      |       |               | $T_A = -40 \sim 85^{\circ}\text{C}$                                                                 |
| Rise / Fall time(20%~80%) | tr/tf           |        |      | 150   | ps            | $I_F = I_{th} + 20\text{mA}$                                                                        |
| Wavelength                | $\lambda_P$     | 1290   | 1310 | 1330  | nm            | CW, $I_F = I_{th} + 20\text{mA}$                                                                    |
|                           |                 | 1260   |      | 1355  |               | CW, $T_A = -40 \sim 85^{\circ}\text{C}$                                                             |
| Spectral width(RMS)       | $\Delta\lambda$ |        |      | 3     | nm            | CW, $I_F = I_{th} + 20\text{mA}$<br>(RMS, -20dB)                                                    |
| PD Monitor Current        | $I_M$           | 100    |      | 800   | $\mu\text{A}$ | CW, $I_F = I_{th} + 20\text{mA}$ , $V_R = 1\text{V}$                                                |
| PD Dark Current           | $I_D$           |        |      | 0.1   | $\mu\text{A}$ | $V_R = 5\text{V}$                                                                                   |
| PD Capacitance            | $C_M$           |        | 3    | 10    | pF            | $V_R = 5\text{V}$ , $f = 1\text{MHz}$                                                               |
| Tracking Error            | TE              | -1.5   |      | 1.5   | dB            | $I_M \text{ hold}@I_{th} + 20\text{mA} (25^{\circ}\text{C})$<br>$T_A = -40 \sim 85^{\circ}\text{C}$ |
| Return Loss               | RL              | 14     |      |       | dB            |                                                                                                     |

### ABSOLUTE MAXIMUM RATINGS:

| PARAMETERS              | MIN | MAX | UNIT               | TEST CONDITIONS |
|-------------------------|-----|-----|--------------------|-----------------|
| Storage Temperature     | -40 | 85  | $^{\circ}\text{C}$ |                 |
| Operating Temperature   | -40 | 85  | $^{\circ}\text{C}$ |                 |
| Lead Solder Temperature |     | 260 | $^{\circ}\text{C}$ | 10 seconds      |
| LD Reverse Voltage      |     | 2   | V                  |                 |
| PD Reverse Voltage      |     | 20  | V                  |                 |
| PD Forward Current      |     | 2   | mA                 |                 |

**OUTLINE DIMENSIONS:**

• Unit: mm

**Pinout:**

| Pin no. | TTL-3G13-304          |
|---------|-----------------------|
|         | Function              |
| 1       | LD Cathode            |
| 2       | PD Anode              |
| 3       | LD Anode / PD Cathode |
| 4       | Case                  |

The FP Laser is a class 1 laser in the safety standard IEC60825-1:2014.

