

## 10Gbps 1330nm DFB 4Pin TO-56 (Preliminary)

### L-TT-ED33-xx Series

#### TYPE NAME: L-TT-ED33-09

#### Product Description:

The LuxNet L-TT-ED33-09 TO-56 header assembly is designed for high speed, high performance data communication and telecommunication applications. This device is integrated with a 10Gbps DFB laser, a TO-56 header, a monitoring photodiode, and a lens cap. The product is designed for 10Gbps long reach and intermediate reach optical communication systems. This TO header assembly can be integrated with different types of ports that are engaged with a single mode fiber connector to provide good coupling efficiency as light generated by the DFB laser is transmitted into a single mode fiber.

#### Product Specifications:

##### Absolute Maximum Ratings

| Parameter                  | Symbol           | Unit | Min. | Max. | Note            |
|----------------------------|------------------|------|------|------|-----------------|
| Operating Temperature(Ta)  | T <sub>op</sub>  | °C   | -40  | 85   |                 |
| Storage Temperature        | T <sub>stg</sub> | °C   | -40  | 85   |                 |
| Solder Reflow Temperature  | STEM             | °C   | -    | 260  | 10 seconds max. |
| Optical Output Power       | P <sub>o</sub>   | mW   | -    | 15   |                 |
| Laser Reverse Voltage      | V <sub>r</sub>   | V    | -    | 2    |                 |
| Photodiode Reverse Voltage | V <sub>rd</sub>  | V    | -    | 20   |                 |
| Photodiode Forward Current | I <sub>pd</sub>  | mA   | -    | 10   |                 |

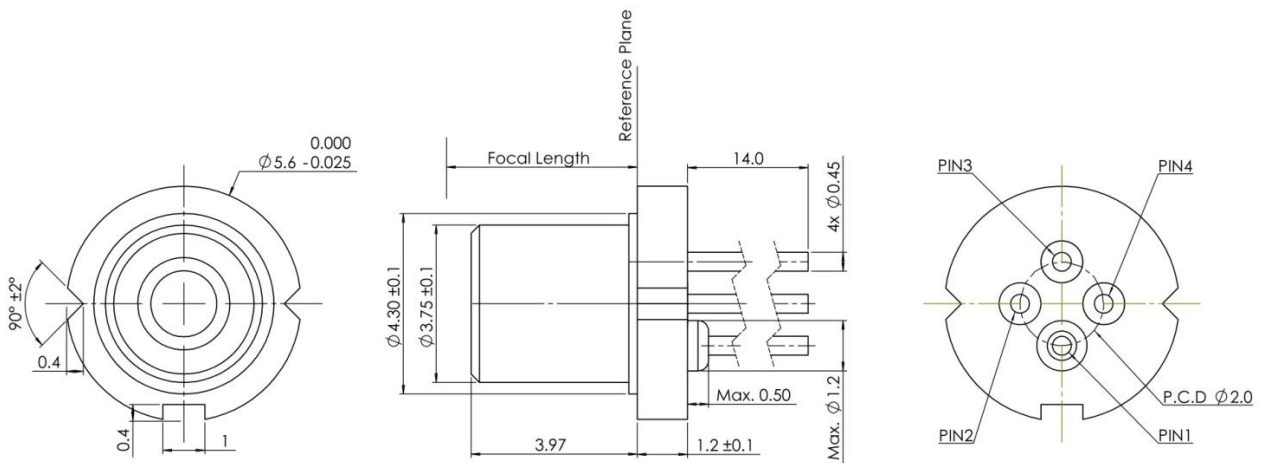
##### Electro-Optical Characteristics (Tc = 25°C, unless noted otherwise):

| Parameter                     | Symbol          | Unit  | Min. | Typ   | Max. | Test Condition  |
|-------------------------------|-----------------|-------|------|-------|------|---|
| Threshold Current             | I <sub>th</sub> | mA    | -    | 8     | 15   | CW  |
| Forward Voltage               | V <sub>f</sub>  | V     | -    | 1.2   | 1.5  | CW, I <sub>th</sub> +20mA   |
| Slope Efficiency              | SE              | mW/mA | 0.36 | -     | -    | Average, I <sub>th</sub> +5 mA to I <sub>th</sub> +20 mA              |
| Peak Wavelength               | λ <sub>p</sub>  | nm    | 1320 | 1330  | 1340 | CW, I <sub>op</sub> =I <sub>th</sub> +20mA<br>Temp. -40°C ~ 85°C      |
| Spectral width                | ≥λ              | nm    | -    | -     | 1    | CW, I <sub>op</sub> =I <sub>th</sub> +20mA<br>Scan resolution <0.1nm  |
| Side Mode Suppression Ratio   | SMSR            | dB    | 35   | -     | -    | CW, I <sub>op</sub> =I <sub>th</sub> +20mA                            |
| Rise / Fall Time              | tr ,tf          | ps    | -    | 50/50 | -    | I <sub>th</sub> +20 mA, 20-80%  |
| Focal Point of Fiber Coupling | FL              | mm    | -    | 10.1  | -    | CW, maximum coupling to SMF (9/125), PC fiber without theta alignment |

Photodiode Characteristics (Tc = 25°C, unless noted otherwise):

| Parameter       | Symbol | Unit | Min. | Typ | Max | Test Condition    |
|-----------------|--------|------|------|-----|-----|-------------------|
| Monitor Current | $I_m$  | mA   | 0.1  | -   | 1.2 | CW, Ith + 20 mA , |
| PD Dark Current | $I_d$  | nA   | -    | -   | 100 | $V_r = 1.7V$      |
| PD Capacitance  | C      | pF   | -    | 10  | 20  | $V_r = 5V @ 1MHz$ |

## L-TT-ED33-09

**Dimensions:** (mm)


### PINOUT

| Number | Function            |
|--------|---------------------|
| 1      | PD Anode / Case     |
| 2      | Laser Diode Cathode |
| 3      | Photodiode Cathode  |
| 4      | Laser Diode Anode   |