



25G DFB Laser TOSA-LC Package

Description

A 25 Gb/s edge emitting laser diode in a TO-can package. The Multi-quantum well distributed feedback (DFB) laser is directly modulated (DML) with a RF signal. This device comes with a built-in monitor photodiode. This device comes configured with a flexible PCB.

Features

- TO-Can Package
- LC- Receptacle
- 1310 nm CW
- High SFDR
- Wide Temperature operating range
- Low Threshold Current



Applications

- 5G
- RF over Fiber (RFoF)



Laser Electro-Optical Characteristics ($T_{op} 23 \pm 3^{\circ}C$, unless otherwise specified)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|---------------------------------|-----------------|------|------|------|------|--------------------------------|
| Peak Wavelength | λ | 1300 | 1310 | 1325 | nm | |
| Threshold Current | I_{th} | | 6 | 15 | mA | $T=25^{\circ}C$ |
| Front Power | P_o | 0.7 | 1 | | mW | $I_f = I_{th} + 20 \text{ mA}$ |
| Slope Efficiency | η | 0.2 | 0.3 | | W/A | $I_f = I_{th} + 20 \text{ mA}$ |
| Series Resistance | R | | | 10 | Ohms | $P_o = 8 \text{ mW}$ |
| Forward Voltage | V_f | | 1.1 | 1.5 | V | $I_f = I_{th} + 20 \text{ mA}$ |
| Spectral Wavelength Width (RMS) | $\Delta\lambda$ | | 0.3 | 0.5 | nm | $P_o = 5 \text{ mW}$ at -20 dB |
| Frequency Bandwidth | BW | 10 | | | GHz | Designed RF board. |
| Side Mode Suppression Ratio | SMSR | 35 | | | dB | |
| Monitor Current | I_m | 0.4 | 0.5 | 1.0 | mA | $I_{op} = 30 \text{ mA}$ |
| Optical Return Loss | ORL | | | -30 | dB | CW = 1310 nm |
| Tracking Error | T_e | -1.5 | | 1.5 | dB | $-40 - 80^{\circ}C$ |

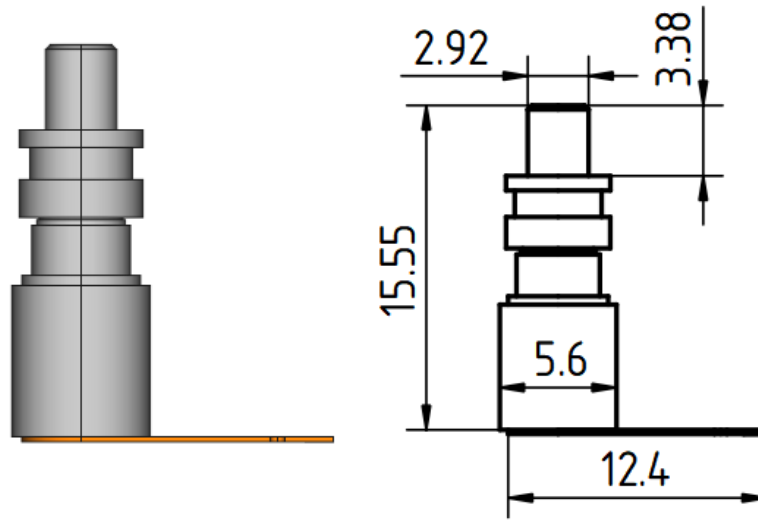
Laser Absolute Maximum Ratings

| Parameter | Symbol | Condition | Min. | Max. | Unit |
|-------------------------|-----------|-----------|------|------|-------------|
| Voltage (laser) | V | | | 1.8 | V |
| Forward Current | I_F | | | | mA |
| Storage Temperature | T_{stg} | | -25 | 90 | $^{\circ}C$ |
| Storage Humidity | H_{stg} | | | 85 | % r.H. |
| Operating Temperature | T_{op} | | -25 | 85 | $^{\circ}C$ |
| Soldering Temperature | T_{st} | 10 sec | | 260 | $^{\circ}C$ |
| ESD Susceptibility | | HBM | 100 | | V |
| Monitor Forward Current | V_{PD} | | | 1 | mA |

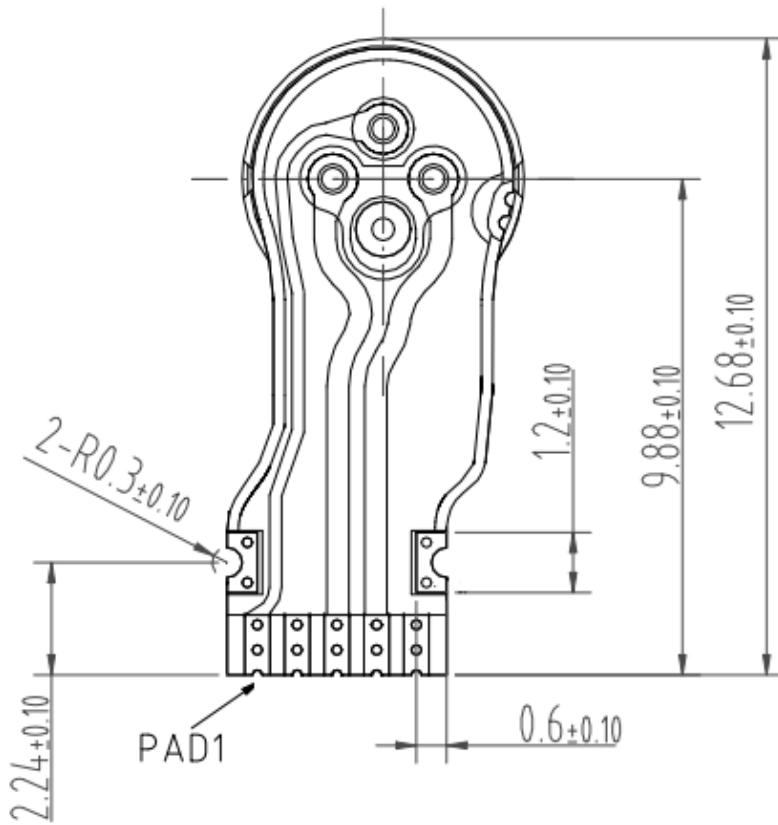
Operating at maximum operating specs for prolong periods of time will damage the device.



Device Dimensions (all units in mm)



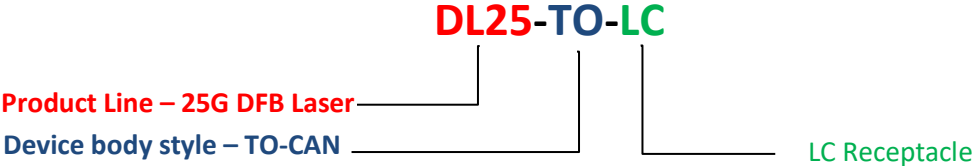
Device Pin Configuration (Bottom View)



| Pad | Function |
|-----|-----------------|
| 1 | PD Cathode |
| 2 | PD Anode / Case |
| 3 | Laser Cathode |
| 4 | Laser Anode |
| 5 | Pd Anode/ Case |



Device Nomenclature



Inquiry Information

Sales: All inquiries regarding sales please contact Sales@NuPhotonics.com

General: If you are interested in a custom solution, general information, or engineering related information please contact Inquiry@NuPhotonics.com



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