## DL-7146-101S

- Violet Laser Diode
- 405 nm, 80 mW
- Multi transverse mode
- TO18 package without PD



## Description

**DL-7146-101S** is a **GaN** based, multi transverse mode, 405 nm violet laser diode in TO18 package **without photodiode**. It is an efficient radiation source for many applications featuring **low threshold current** and high operating temperatures up to 75°C

#### **Maximum Ratings**

| Davamatan             | Cumbal       | Val  | l lmi4 |      |
|-----------------------|--------------|------|--------|------|
| Parameter             | Symbol       | Min. | Max.   | Unit |
| Optical Output Power  | $P_{O}(CW)$  |      | 85     | mW   |
| Reverse Voltage       | $V_{R}$      |      | 2      | V    |
| Operating Temperature | $T_{CASE}$   | 0    | + 75   | °C   |
| Storage Temperature   | $T_{ m STG}$ | - 40 | + 85   | °C   |
| Soldering Temperature | $T_{SOLDER}$ |      | 260    | °C   |

## Laser Characteristics (T<sub>CASE</sub> = 25°C, P<sub>O</sub> = 80 mW)

| Parameter               | Symbol   | Values |      |       | Unit  |
|-------------------------|--|--------|------|-------|-------|
| raiailietei             |  | Min.   | Тур. | Max.  | Unit  |
| Emission Wavelength     | $\lambda_{peak}$                               | 395    | 405  | 415   | nm    |
| Treshold Current        | $\emph{I}_{th}$                                |        | 45   | 60    | mA    |
| Operating Current       | I <sub>F</sub>                                 |        | 110  | 140   | mA    |
| Operating Voltage       | $V_{F}$  |        | 5.4  | 6.0   | V     |
| Beam Divergence (FWHM)  | $\Theta_{\Pi} \times \Theta_{\perp}$           | 6x16   | 8x19 | 12x23 | deg   |
| Off Axis Angle          | $\lambda\Theta_{\rm II},\lambda\Theta_{\perp}$ | -3, -3 |      | 3, 3  | deg   |
| Differential Efficiency | SE   | 8.0    | 1.2  |       | mW/mA |

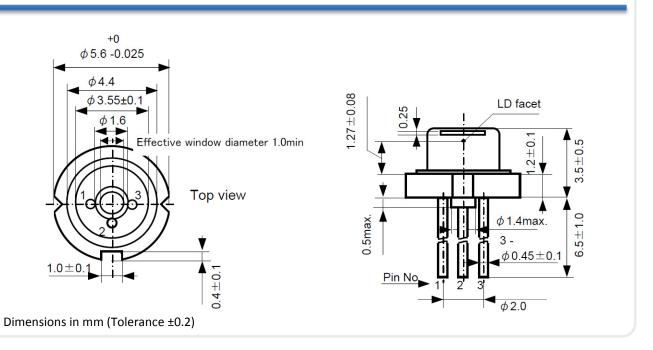


# ROITHNER LASERTECHNIK GIDEN

WIEDNER HAUPTSTRASSE 76 IO40 VIENNA AUSTRIA TEL. +43 I 586 52 43 -0, FAX. -44, OFFICE@ROITHNER-LASER.COM



#### **Drawing**



#### **Electrical Connection**

| Lead  | Description | 10 03 | ATTENTION                                    |
|-------|-------------|-------|--|
| Pin 1 | LD Anode    | LD    | ATTENTION OBSERVE PRECAUTIONS                |
| Pin 2 | Case        |       | FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES |
| Pin 3 | LD Cathode  | 02    |  |

## Mounting Instruction

In order to maintain lifetime and stability of the laser diode it is essential to provide efficient heat management. Heat dissipation is possible through the base plate only. For long time stable operation proper contact between laser diode base plate and heat sink is mandatory

### Safety Advice

This laser diode emits highly concentrated visible light which can be hazardous to the human eye. This diode is classified as Class 3B laser product according to IEC 60825-1. Actual laser light emitted and precautions necessary strongly depend on mode of operation.

#### © All Rights Reserved

The above specifications are for reference purpose only and subjected to change without prior notice