

## DL pro\_23240

### 1.0 System Summary

#### 1.1 General

Serial number: 23240      Production date: 2024-04-18

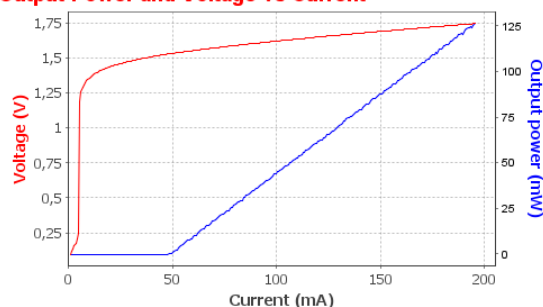
#### 1.2 Customer's Specification

|                        | Customer's Specification | Test Data |
|------------------------|--------------------------|-----------|
| Wavelength:            | 930 nm                   | 930.00 nm |
| Output power (set WL): | 120.0 mW                 | 126.2 mW  |
| Maximum power:         | -                        | 126.2 mW  |
| Minimum wavelength:    | 880.0 nm                 | 879.7 nm  |
| Maximum wavelength:    | 930.0 nm                 | 940 nm    |
| Mode-hop free tuning:  | 20 GHz                   | 20 GHz    |

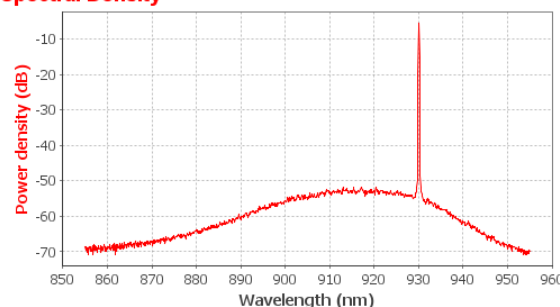
### 2.0 System Characterization

#### 2.1 Stabilized Diode Laser

**Output-Power and Voltage vs Current**



**Spectral Density**



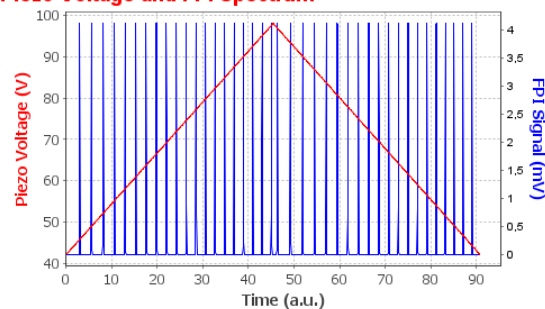
#### Diode Characteristics

Lasing threshold: 49.0 mA  
Slope efficiency: 0.86 W / A

#### Factory Settings (Set Wavelength, Mode-Hop Free)

Set temperature: 20.0 °C  
Set current: 195.0 mA  
Maximum current: 195 mA  
Maximum tuning current: 195 mA  
Maximum voltage: 1.8 V  
Scan amplitude: 56 V  
Scan offset: 70 V  
Feedforward-factor: 0.00 mA / V

**Piezo Voltage and FPI Spectrum**



#### Maximum Mode-Hop Free Tuning

MHFTR: 29 GHz  
Current (reduced): 195 mA

All power values are measured before the integrated isolator.

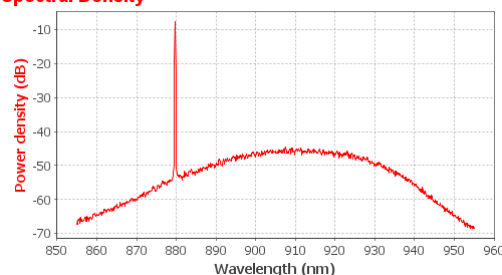
## DL pro\_23240

### 2.2 Coarse Tuning

#### Minimum Wavelength

Wavelength: 879.70 nm  
 Maximum power: 57.9 mW  
 Maximum current: 195.0 mA  
 Temperature: 20.0 °C  
 Lasing Threshold: 111.0 mA  
 ASE suppression: 37.9 dB

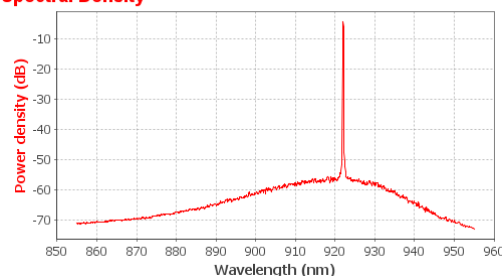
Spectral Density



#### Gain Maximum

Wavelength: 922.00 nm  
 Maximum power: 126.2 mW  
 Maximum current: 195.0 mA  
 Temperature: 20.0 °C  
 Lasing threshold: 48.0 mA  
 ASE suppression: 51.2 dB

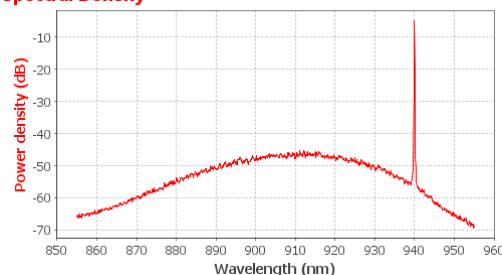
Spectral Density



#### Maximum Wavelength

Wavelength: 940.00 nm  
 Maximum power: 64.8 mW  
 Maximum current: 195.0 mA  
 Temperature: 20.0 °C  
 Lasing threshold: 110.0 mA  
 ASE suppression: 40.5 dB

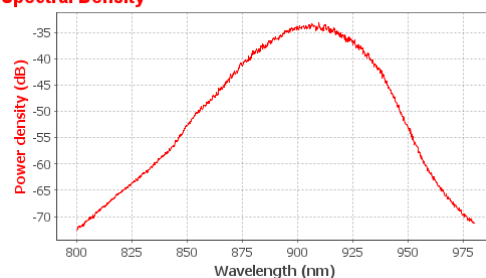
Spectral Density



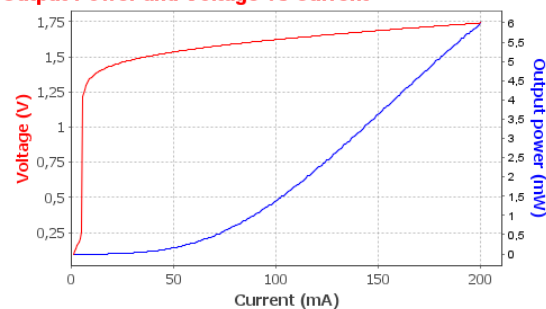
### 2.3 Free Running Laser Diode

Wavelength: 909.8 nm  
 Maximum power: 6.0 mW  
 Maximum current: 200.0 mA  
 Temperature: 20.0 °C  
 Lasing threshold: 0.0 mA  
 Slope efficiency: 0.0 W / A

Spectral Density



Output-Power and Voltage vs Current

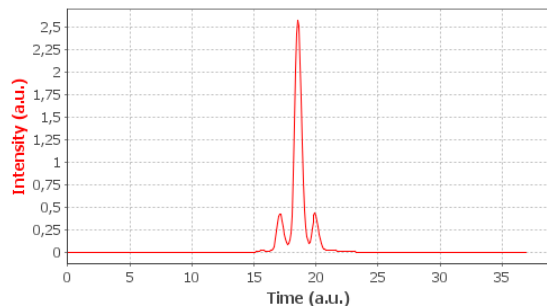


### 2.4 RF-Modulation

#### AC Coupled

Modulation frequency: 10.0 MHz  
RF power: 4.0 dBm

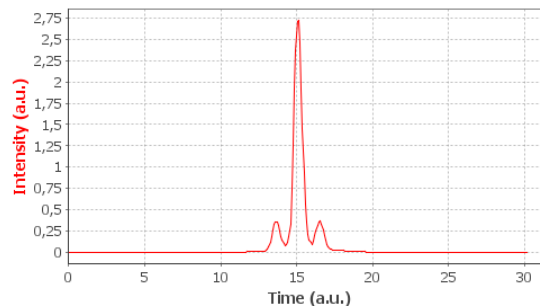
#### AC Modulation



#### DC Coupled

Modulation frequency: 10.0 MHz  
RF power: 9.0 dBm

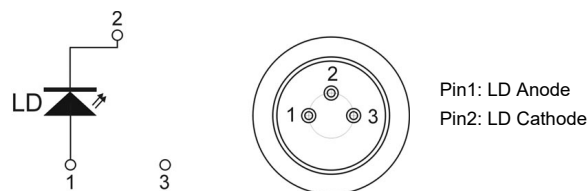
#### DC Modulation



### 2.5 Laser Diode

Article number: #LD-0920-0200-AR-1  
Serial number: 362149  
Resonator type: A  
Positive polarity: ☒  
Polarization ratio: -

#### Laser Diode Pinning



### 2.6 Isolator

|                           | Isolator 1 | Isolator 2 | Total    |
|---------------------------|------------|------------|----------|
| Article number:           | #OK-001624 | -          |          |
| Serial number:            | 11560      | -          |          |
| Extinction:               | 65 dB      | -          | -        |
| Transmission:             |            |            | 92 %     |
| Power before isolator(s): |            |            | 126.2 mW |
| Power after isolator(s):  |            |            | 116.5 mW |

### 2.7 Fiber Coupling (optional)

| Fiber Coupler     | - | Test Data            |   |
|-------------------|---|----------------------|---|
| Serial number:    | - | Coupling efficiency: | - |
| Focussing lens:   | - | PER:                 | - |
| Focal length:     | - | Output angle:        | - |
|                   |   | Power before fiber:  | - |
|                   |   | Power after fiber:   | - |
| <b>Test Fiber</b> | - |                      |   |
| Length:           | - |                      |   |
| Type:             | - |                      |   |
| Connector:        | - |                      |   |
| MFD:              | - |                      |   |
| NA:               | - |                      |   |

# Production and Quality Control Data Sheet

## DL pro\_23240



### 3.0 Electronics And Software

#### 3.1 DLC pro

|                  |          |                          |         |
|------------------|----------|--------------------------|---------|
| Serial number:   | 50727    | <b>Installed Options</b> |         |
|                  |          | DLC PRO LOCK             | Limited |
| <b>Passwords</b> |          | -                        | -       |
|                  |          | -                        | -       |
| Maintainance:    | CAUTION  | -                        |         |
| Service:         | ux59tXNT | -                        |         |

#### 3.2 Additional Electronics

|                |   |                          |          |
|----------------|---|--------------------------|----------|
| <b>DLC EXT</b> | - | <b>Extension Modules</b> |          |
| -              | - | -                        | -        |
| -              | - | MOTOR PRO                | SN 00074 |

### 4.0 Additional Information

-

### 5.0 REACH Information

Be aware this laser system contains candidates for "Substances of very high concern" (SVHC) and will potentially be included under the authorization list under European regulation EC No, 1907/2006.

If the product is handled properly, no health risks arise during use due to the harmful SVHC contained in it. After use, the product must be disposed of in accordance with the applicable legal regulations.

Please contact TOPTICA Photonics AG for further details.

### 6.0 Quality Control

Production: Denis Höppner 2024-04-18

Final Check: \_\_\_\_\_