

# Green Line Laser Module Wide Temperature Range

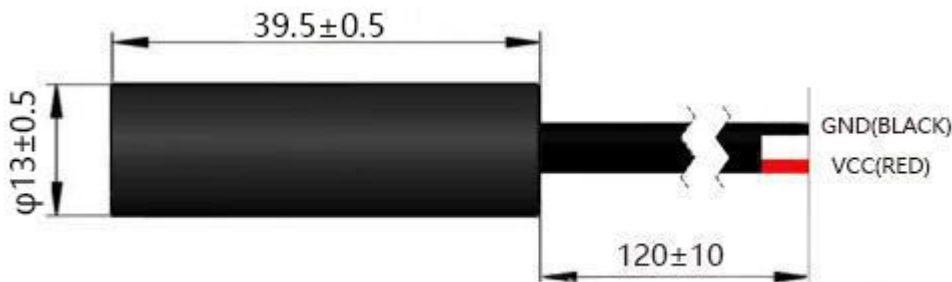


**G545L010-13x39.5-XXX-(10-40)-10**

## Features

- Gaussian Line
- Wide Temperature Range
- Fast Rise Time
- High Reliability

## Dimensions (Unit: mm)



## Specifications

| Model Number                     |                                      | G545L010-13x39.5-XXX-(10-40)-10 |                   |         |
|----------------------------------|--------------------------------------|---------------------------------|-------------------|---------|
| Mechanical Specifications        |                                      | Min                             | Typ               | Max     |
| Laser Head                       | Diameter (mm)                        | 12.9                            | 13 <sup>(1)</sup> | 13.1    |
|                                  | Length (mm)                          | 39.0                            | 39.5              | 40.0    |
|                                  | Weight (g)                           | 14.0                            | 14.5              | 15      |
| Housing Material                 |                                      | Black Anodized Aluminum         |                   |         |
| Optical Specifications           |                                      | Min                             | Typ               | Max     |
| Wavelength (nm) <sup>(2)</sup>   |                                      | 544                             | 545               | 546     |
| Output Power (mW) <sup>(3)</sup> |                                      | -                               | 10                | -       |
| Power Stability                  | at const. Temperature <sup>(4)</sup> | -                               | -                 | +/- 5%  |
|                                  | over Temperature Range               | -                               | -                 | +/- 25% |
| Output Power Mode                |                                      | CW                              |                   |         |

<sup>(1)</sup> Other Diameters available on demand

<sup>(2)</sup> over Operating Case Temperature Range

<sup>(3)</sup> at Cylinder (Optional: Powell) Lens Exit

<sup>(4)</sup> after max. 3 minutes

| <b>Beam Specifications</b>                           | <b>Min</b>              | <b>Typ</b>         | <b>Max</b> |
|--|-------------------------|--------------------|------------|
| Fan Angle (1/e <sup>2</sup> , degree) <sup>(1)</sup> | -5                      | XXX <sup>(1)</sup> | +5         |
| Beam Divergence (mrad) <sup>(2)</sup>                | 0.6                     | -                  | 1.5        |
| Line Curvature (mm) at 10m                           | -                       | -                  | ± 1        |
| Deviation of Laser Beam (mrad) <sup>(3)</sup>        | -                       | -                  | 8          |
| Power Distribution                                   | Gaussian <sup>(4)</sup> |                    |            |
| Beam Mode Longitude                                  | Multi                   |                    |            |
| Residual IR  | -                       | -                  | 1%         |
| <b>Electrical Specifications</b>                     | <b>Min</b>              | <b>Typ</b>         | <b>Max</b> |
| Power Type   | APC                     |                    |            |
| Voltage (DC, V)                                      | 2.8                     | 3.0                | 5.2        |
| Operating Average Current (mA) <sup>(5)</sup> at 3V  | -                       | 220                | 250        |
| Housing Isolation                                    | Yes                     |                    |            |
| ESD protection                                       | Yes                     |                    |            |
| Wire Length (mm)                                     | 120± 10                 |                    |            |
| Wire Type <sup>(6)</sup>                             | AWM STYLE 22AWG         |                    |            |
| Reverse Voltage Protection                           | Yes                     |                    |            |
| <b>Reliability</b>                                   | <b>Min</b>              | <b>Typ</b>         | <b>Max</b> |
| Operating Case Temperature Range (°C)                | 10                      | -                  | 40         |
| Rise Time (Seconds) <sup>(7)</sup>                   | -                       | -                  | 0.2        |
| Storage Temperature (°C)                             | -40                     | -                  | 70         |
| Environmental Humidity (RH, %)                       | 5                       | -                  | 85         |
| Lifetime (hours) (MTTF at 25°C)                      | 10,000                  | -                  | -          |
| RoHS Compliance Declaration                          | Yes                     |                    |            |

(1) XXX replace by fan angle:

Gaussian: 10 / 15 / 20 / 30 / 45 / 60 / 75 / 90 / 120°

Uniform: 30 / 45 / 60 / 75 / 90°

(2) Full Angle (1/e<sup>2</sup>)

Optional: Focused Line on demand

(3) from Laser Module Centerline (Half Angle)

(4) Optional: Uniform

(5) over Operating Case Temperature Range

(6) Optional: Alternative Wire Types & Connector Models on demand

(7) to 75% of full Output Power

## Remarks

- Model Number for placing orders: G545L010-13x39.5-XXX-(10-40)-10  
- XXX replace by fan angle: 10 / 15 / 20 / 30 / 45 / 60 / 75 / 90 / 120°
- Datasheet Version: 1
- Integrated Photodiode
- Customer is responsible for suitable heat sinking
- Label around wires (see picture 2):  
- G545L010-13x39.5-XXX-(10-40)-10  
- Lasence Order Number - Module Number  
- Label length: 30mm (+/-3mm)
- Label on plastic bag (see picture 3):  
- LASENCE®  
- G545L010-13x39.5-XXX-(10-40)-10  
- Lasence Order Number - Module Number  
- Label Length: 30mm (+/-3mm); Width: 25mm (+/-3mm)
- **Optional:**
- Shock  
- 1000g, 1ms, 6 shocks (3 axes, 2 shocks/axis)
- Vibration  
- 20 ~ 200Hz, 0.02g<sup>2</sup>/Hz (3 axes, 1h/axis)
- Laser Beam Warning Label on module housing (see picture 1)
- Slot at Front of Laser Module (see picture 4 & drawing 1 on page 4)

**Picture 1**



**Picture 2**



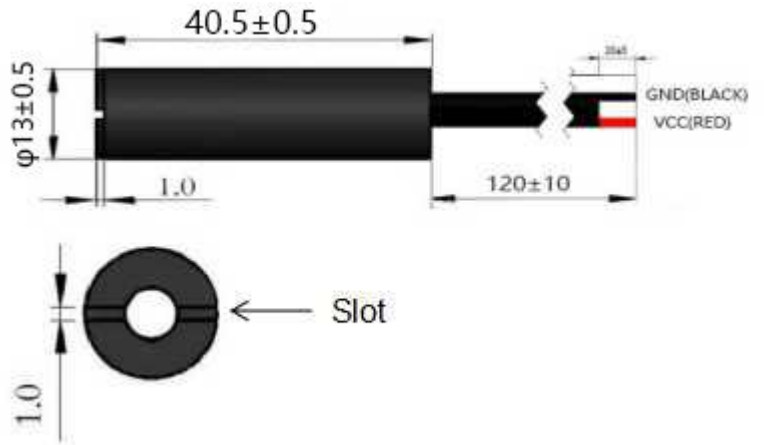
**Picture 3**



**Picture 4**

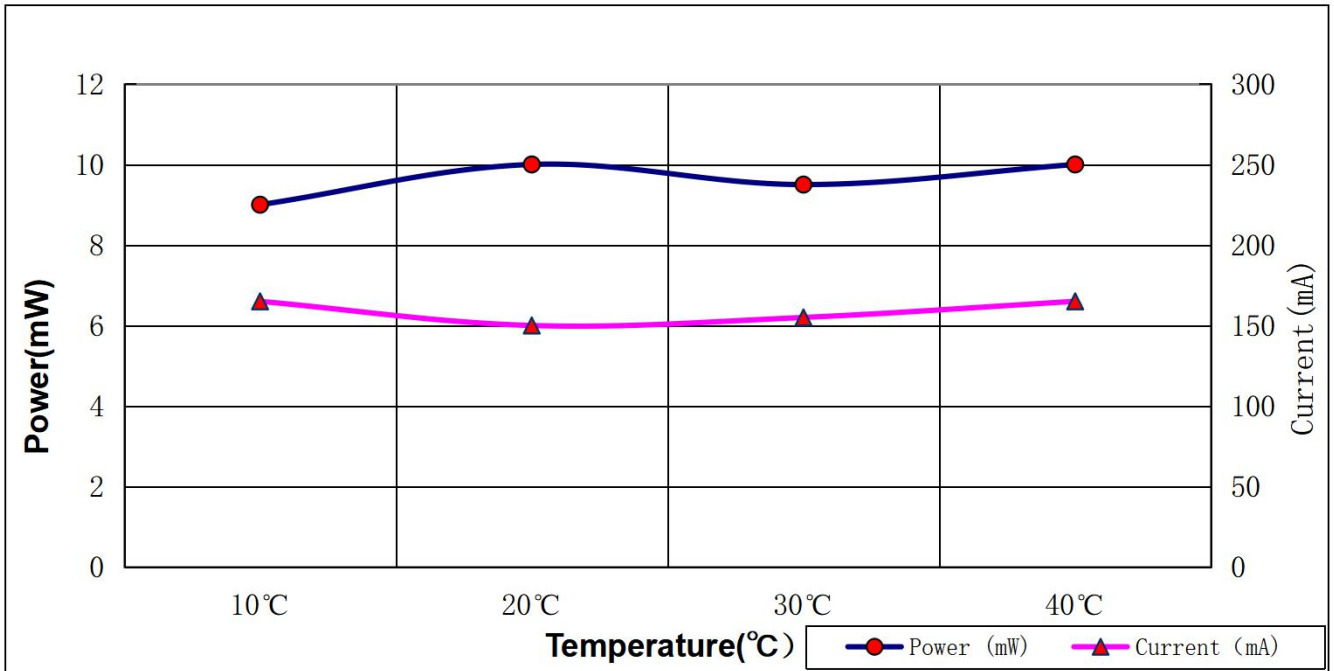


**Drawing 1**



## Typical Output Performance (examples)

### 1.) Power / Current vs. Case Temperature



### 2.) Power vs. Time (at 25°C Case Temperature)

