

Green Line Laser Module Wide Temperature Range

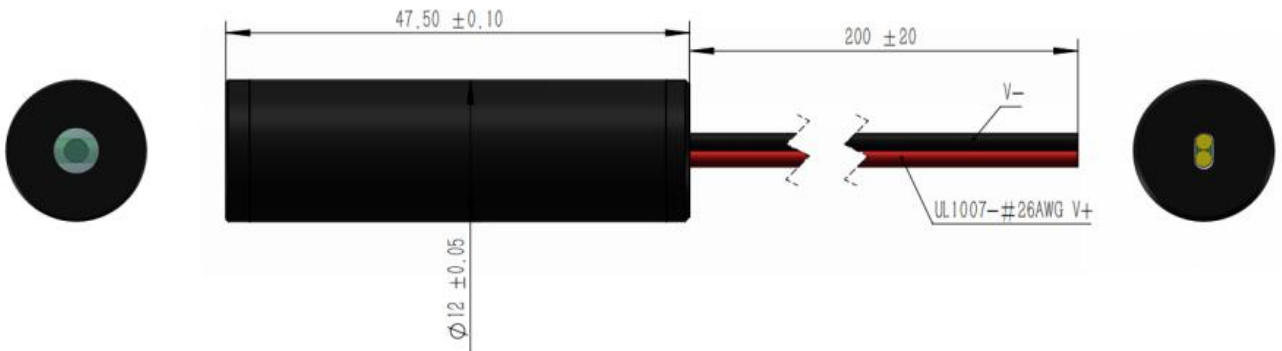


G545L010-12x47.5-X-(-30-50)-10

Features

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

Dimensions (Unit: mm)



Specifications

| Model Number | | G545L010-12x47.5-XXX-(-30-50)-10 | | |
|--|---------------|----------------------------------|---------------------|--------|
| Mechanical Specifications | | Min | Typ | Max |
| Laser Head | Diameter (mm) | 11.95 | 12 ⁽¹⁾ | 12.05 |
| | Length (mm) | 47.4 | 47.5 ⁽¹⁾ | 47.6 |
| | Weight (g) | - | 20 | - |
| Housing Material | | Black Anodized Aluminum | | |
| Optical Specifications | | Min | Typ | Max |
| Wavelength (nm) ⁽²⁾ | | 544 | 545 | 546 |
| Output Power (mW) ⁽³⁾ | | 7.5 | 10 | 12.5 |
| Power Stability at const. Temperature ⁽⁴⁾ | | - | +/- 2% | +/- 5% |
| Output Power Mode | | CW | | |

(1) Other Dimensions available on demand

(2) over Operating Case Temperature Range

(3) at Cylinder (Optional: Powell) Lens Exit

(4) after max. 3 minutes

| Beam Specifications | Min | Typ | Max |
|--|---------------|------------------|------------|
| Fan Angle (1/e ² , degree) ⁽¹⁾ | X-5 | X ⁽¹⁾ | X+5 |
| Line width @ 10m (mm) ⁽²⁾ | - | 3.5 | 4.5 |
| Line Curvature (mm) at 10m | - | - | ±0.5 |
| Deviation of Laser Beam (mrad) ⁽³⁾ | - | 6 | 10 |
| Power Distribution | Uniform | | |
| Beam Mode Longitude | Multi | | |
| Residual IR | - | - | 1% |
| Electrical Specifications | Min | Typ | Max |
| PCB Type | APC | | |
| Voltage (DC, V) | 2.8 | 3.0 | 5.2 |
| Operating Current (mA) ⁽⁴⁾ at 3V | - | 210 | 290 |
| Housing Isolation | Yes | | |
| ESD protection | No | | |
| Wire Length (mm) | 200 ± 20 | | |
| Wire Type ⁽⁵⁾ | UL1007 26#AWG | | |
| Connector Model ⁽⁶⁾ | None | | |
| Reverse Voltage Protection | Yes | | |
| Reliability | Min | Typ | Max |
| Operating Case Temperature Range (°C) ⁽⁷⁾ | -30 | - | 50 |
| Rise Time (Seconds) ⁽⁸⁾ | - | 0.05 | 0.2 |
| Storage Temperature (°C) | -40 | - | 60 |
| Environmental Humidity (RH, %) | 5 | - | 85 |
| Lifetime (hours) (MTTF at 25°C) | 5,000 | - | - |
| RoHS Compliance Declaration | Yes | | |

⁽¹⁾ X replace by fan angle:

Uniform: 30 / 45 / 60 / 75 / 90°

⁽²⁾ Optional: Focused Line on demand

⁽³⁾ from Laser Module Mechanical Centerline (Full Angle)

⁽⁴⁾ over Operating Case Temperature Range

⁽⁵⁾ Optional: Alternative Wire Types on demand

⁽⁶⁾ Optional: Connector Models on demand

⁽⁷⁾ A = 10-40 °C, B = 10-50 °C, C = 0-40 °C, D = -10-50 °C, E = -30-50°C

⁽⁸⁾ to 75% of full Output Power

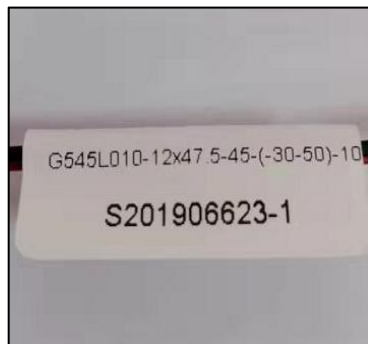
Remarks

- Model Number for placing orders: G545L010-12x47.5-X-(-30-50)-10
- X replace by fan angle: 30 / 45 / 60 / 75 / 90°
Datasheet Version: 1
- Customer is responsible for suitable heat sinking
- Label on plastic bag (see picture 3):
 - LASENCE®
 - G545L010-12x47.5-X-(-30-50)-10
 - Lasence Order Number - Module Number
 - Label Length: 30mm (+/-3mm); Width: 25mm (+/-3mm)
- Laser Beam Warning Label on module housing (see picture 1)
- **Optional:**
- Shock
 - 1000g, 1ms, 6 shocks (3 axes, 2 shocks/axis)
- Vibration
 - 20 ~ 200Hz, 0.02g²/Hz (3 axes, 1h/axis)
- Label around wires (see picture 2):
 - G545L010-12x47.5-X-(-30-50)-10
 - Lasence Order Number - Module Number
 - Label length: 30mm (+/-3mm)

Picture 1



Picture 2

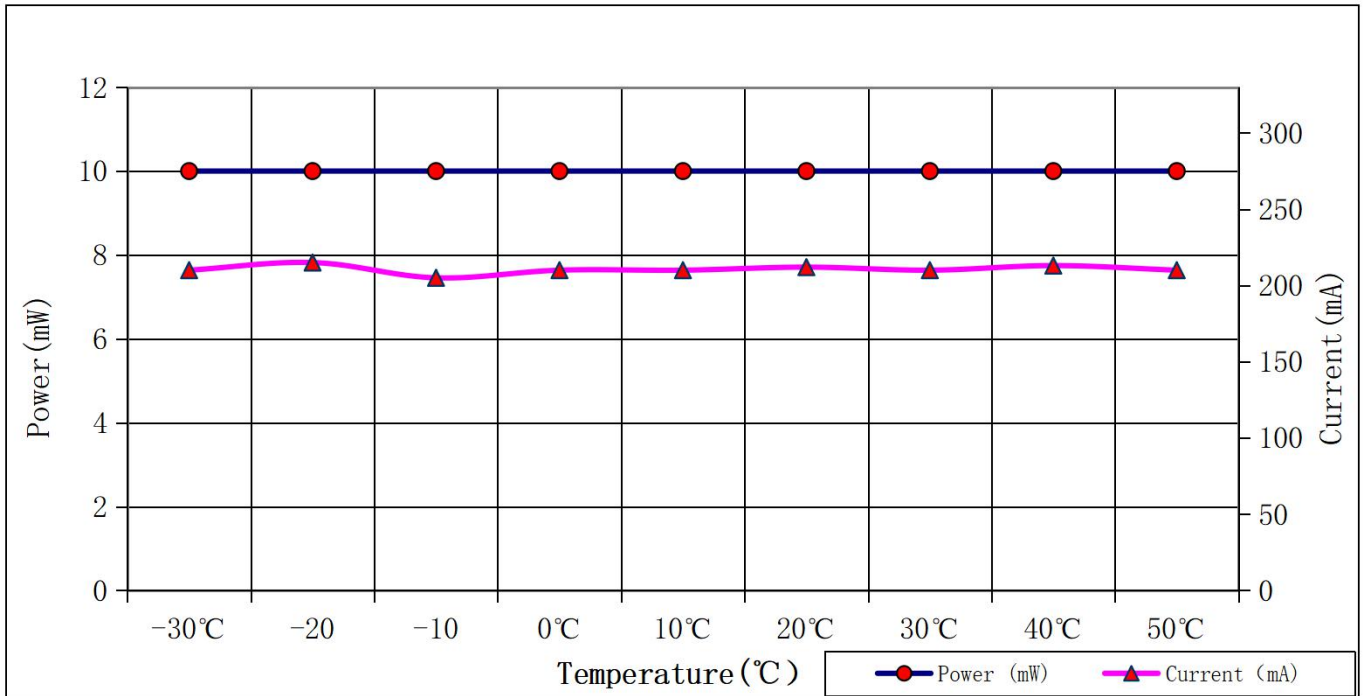


Picture 3



Typical Output Performance (examples)

1.) Power / Current vs. Case Temperature



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

