

# Green Dot Laser Module Wide Temperature Range

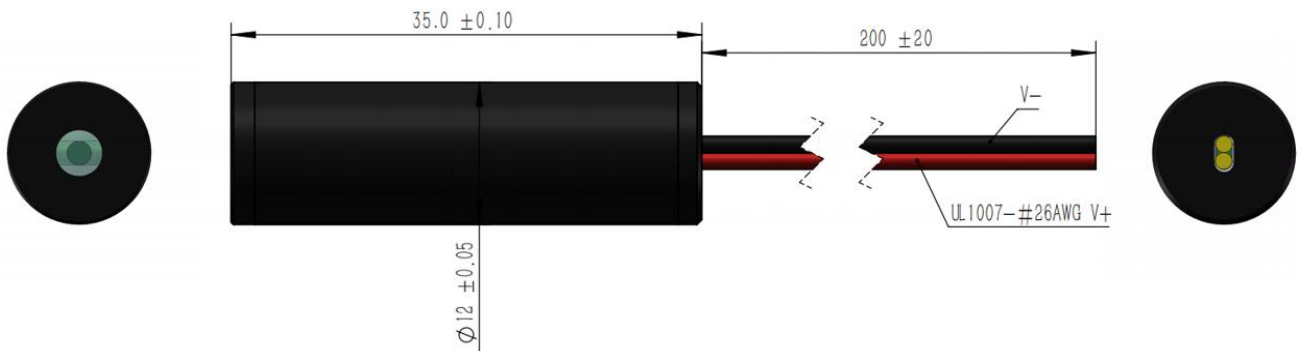


**G545D010-12x35-1.0-(-30-50)-10**

## Features

- Fast Rise Time
- High Reliability
- Isolated Housing
- Wide Temperature Range

## Dimensions (Unit: mm)



## Specifications

Model Number		G545D010-12x35-1.0-(-30-50)-10		
Mechanical Specifications		Min	Typ	Max
Laser Head	Diameter (mm)	11.95	12 <sup>(1)</sup>	12.05
	Length (mm)	34.9	35 <sup>(1)</sup>	35.1
	Weight (g)	-	13	-
Housing Material		Black Anodized Aluminum		
Optical Specifications		Min	Typ	Max
Wavelength (nm) <sup>(2)</sup>		544	545	546
Output Power (mW)		7.5	10	12.5
Power Stability at const. Temperature <sup>(3)</sup>		-	+/- 2%	+/- 5%
Output Power Mode		CW		
Laser Class		3B		

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

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

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

<b>Beam Specifications</b>		<b>Min</b>	<b>Typ</b>	<b>Max</b>
Beam Divergence (mrad) <sup>(1)</sup>		-	0.5	1.0
Beam Alignment Tolerance	Position ( $\Delta r$ , mm) <sup>(2)</sup>	-	0.3	0.5
	Off-axis Angle (mrad) <sup>(3)</sup>	-	8	10
Beam Diameter at Output Window (mm) <sup>(4)</sup>		-	-	2.5
Beam Roundness		70%	-	100%
Beam Mode Longitude		Multi		
Beam Mode Transverse		TEM <sub>00</sub>		
M <sup>2</sup>		-	1.2	1.4
Polarization Ratio		100:1	-	-
<b>Electrical Specifications</b>		<b>Min</b>	<b>Typ</b>	<b>Max</b>
PCB Type		APC		
Voltage (DC, V)		2.8	3	5.2
Operating Current (mA) at 3V <sup>(5)</sup>		-	210	290
Housing Isolation		Yes		
ESD protection		No		
Wire Length (mm)		200 +/- 20		
Wire Type <sup>(6)</sup>		UL1007 26AWG		
Connector Model <sup>(7)</sup>		None		
Reverse Voltage Protection		Yes		
<b>Reliability</b>		<b>Min</b>	<b>Typ</b>	<b>Max</b>
Operating Case Temperature Range (°C) <sup>(8)</sup>		-30	-	50
Rise Time (Seconds) <sup>(9)</sup>		-	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		

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

<sup>(2)</sup> at Output Window

<sup>(3)</sup> Full Angle

<sup>(4)</sup> Optional: Focused Beam on demand

<sup>(5)</sup> over Operating Case Temperature

<sup>(6)</sup> Optional: Alternative Wire Types on demand

<sup>(7)</sup> Optional: Alternative connector Models on demand

<sup>(8)</sup> A = 15-35 °C, B = 10-50 °C, C = 0-40 °C, D = -10-50 °C, E = -30-50°C

<sup>(9)</sup> to 75% of full Output Power

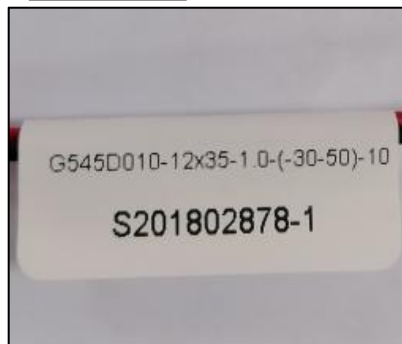
## Remarks

- Datasheet Version 1
- Customer is responsible for suitable heat sinking
- Label around wires (see picture 2):
  - G545D010-12x35-1.0-(-30-50)-10
  - Lasence Order Number - Module Number
  - Label length: 30mm (+/-3mm)
- Label on plastic bag (see picture 3):
  - LASENCE®
  - G545D010-12x35-1.0-(-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, 0.02g<sup>2</sup>/Hz (3 axes, 1h/axis)

**Picture 1**



**Picture 2**

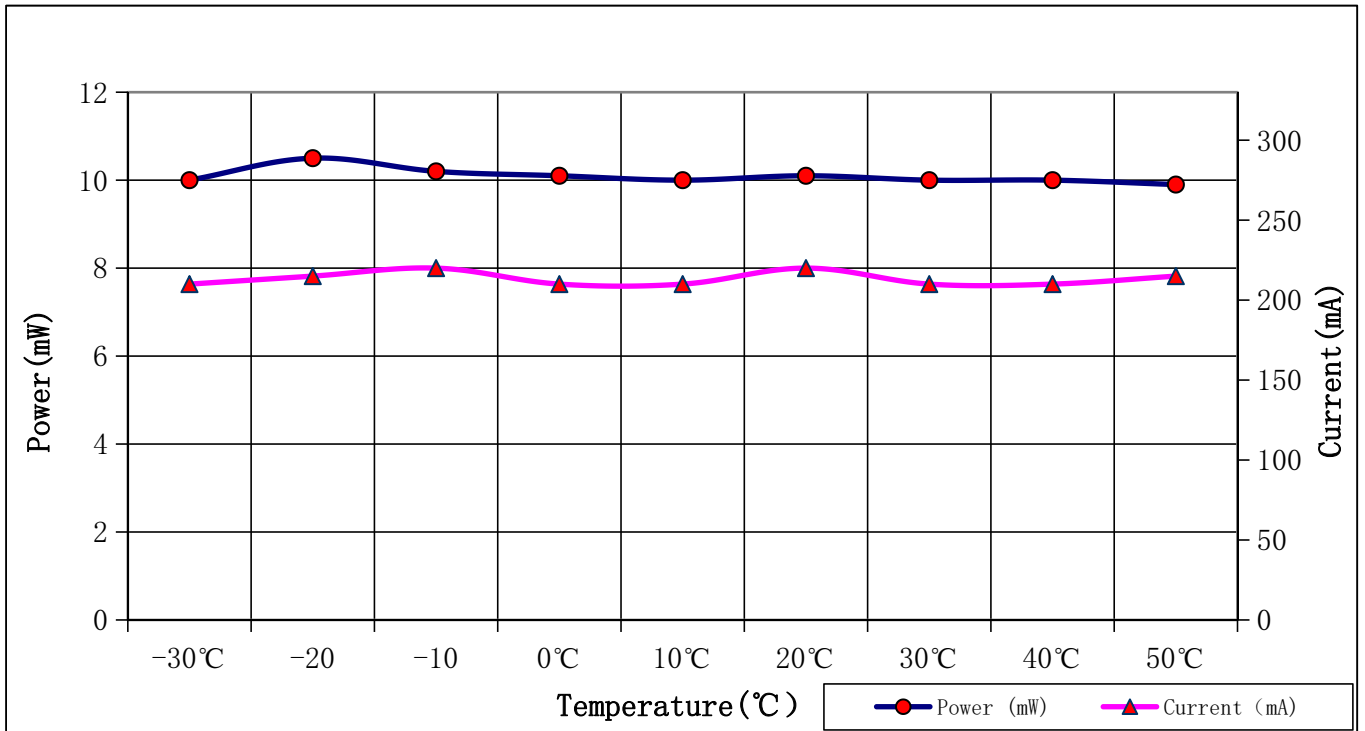


**Picture 3**



## Typical Output Performance (examples)

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



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

