

4mW Green Laser Module

Wide Temperature Range

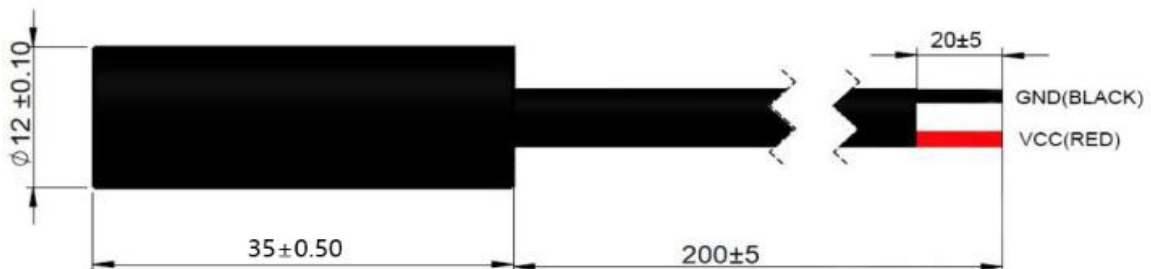


G545D004-12x35-1.0-(-30-50)-10

Features

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

Dimensions (Unit: mm)



Specifications

Model Number		G545D004-12x35-1.0-(-30-50)-10		
Mechanical Specifications		Min	Typ	Max
Laser Head	Diameter (mm)	11.9	12	12.1
	Length (mm)	34.5	35	35.5
	Weight (g)	-	20	-
Housing Material		Black Anodized Aluminium		
Optical Specifications		Min	Typ	Max
Wavelength (nm)		544	545	546
Output Power (mW) ⁽¹⁾		3.0	4	4.9
Power Stability at const. Temperature ⁽²⁾		-	+/- 2%	+/- 5%
Output Power Mode		CW		
Laser Class		3R		

(1) over Temperature Range of -30 to 50 °C

(2) after max. 3 minutes

Beam Specifications		Min	Typ	Max
Beam Divergence (mrad) ⁽¹⁾		-	0.5	1.0
Beam Alignment Tolerance	Position (Δr , mm) ⁽²⁾	-	0.3	0.5
	Off-axis Angle (mrad) ⁽³⁾	-	20	30
Beam Diameter at Output Window (mm)		-	-	2.0
Beam Roundness		70%	-	100%
Beam Mode Longitude		Multi		
Beam Mode Transverse		TEM00		
M ²		-	1.2	1.4
Polarization Ratio		100:1	-	-
Residual IR (%)		-	-	1%
Electrical Specifications		Min	Typ	Max
PCB Type		APC		
Voltage (DC, V)		2.5	-	6
Operating Current (mA) at 3V ⁽⁴⁾		-	180	250
Housing Isolation		Yes		
ESD protection		No		
Wire Length (mm)		200 +/- 5		
Wire Type		AWM STYLE 22AWG ⁽⁵⁾		
Connector Model		None ⁽⁵⁾		
Reverse Voltage Protection		Yes		
Reliability		Min	Typ	Max
Operating Case Temperature Range (°C)		-30	-	50
Rise Time (Seconds) ⁽⁶⁾		-	0.2	0.5
Storage Temperature (°C)		-20	-	60
Environmental Humidity (RH, %)		5	-	85
Lifetime (hours) (MTTF at 25°C)		10,000	-	-
RoHS Compliance Declaration		Yes		

(1) Full Angle ($1/e^2$)

(2) at Output Window

(3) Full Angle

(4) over Operating Case Temperature

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

(6) to 75% of full Output Power

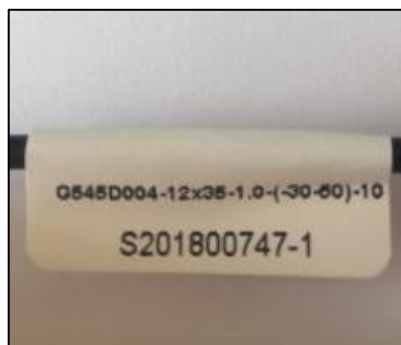
Remarks

- Datasheet Version 1
- Reverse Voltage Protection
- Customer is responsible for suitable heat sinking
- Output power always < 5mW
- All wires are AWM STYLE 22AWG.
- Label around wires (see label in picture 2):
 - Lasence Model Number
 - Lasence Order Number - Module Number
 - Label length: 30mm (+/-3mm)
- Label on plastic bag (see label in picture 3):
 - LASENCE®
 - G545D004-12x35-1.0-(-30-50)-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, 0.02g²/Hz (3 axes, 1h/axis)
- Laser Beam Warning Label on module housing (see picture 1)

Picture 1



Picture 2

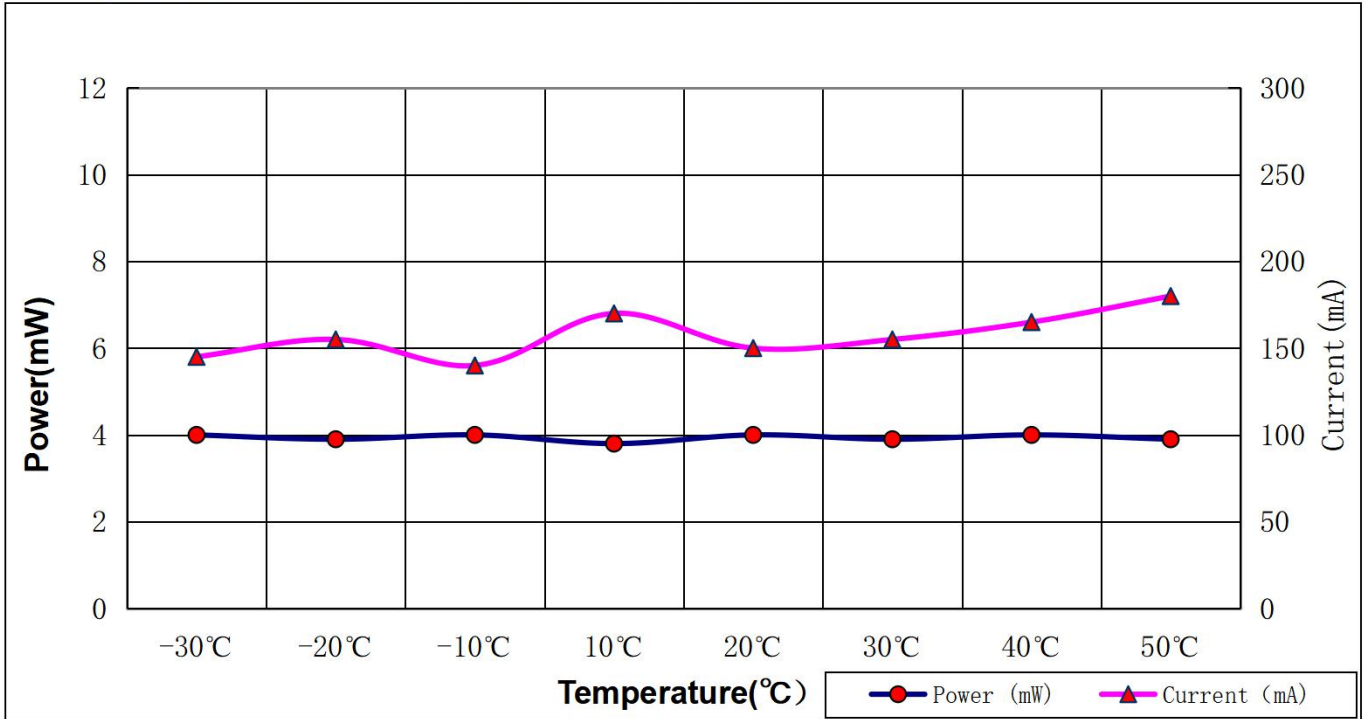


Picture 3



Typical Output Performance (examples)

1.) Power / Current vs. Case Temperature



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

