

520nm, Green Laser Diode Module

Application

Industrial areas / Area indicator / Hunting sign / bird repelling

Property

Wavelength Range = 520nm (others optional)

Introduction

Egismos has designed a green laser diode module with high optical power up to 400mW. It is integrated into a $\Phi 36$ mm casing with adjustable focus that allows modifications of the size of the projected laser beam according to your application requirements.

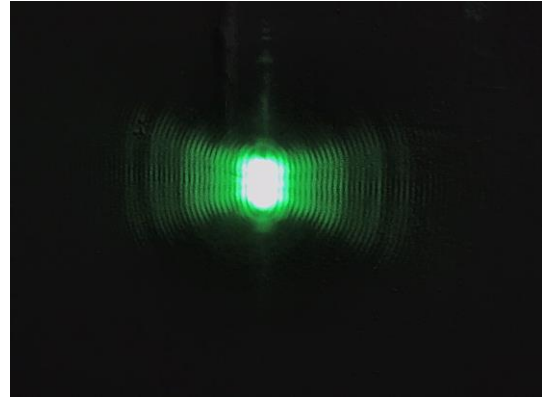
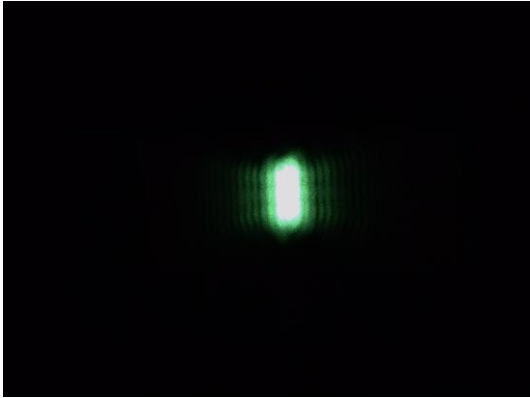


Specifications(T=25°C)

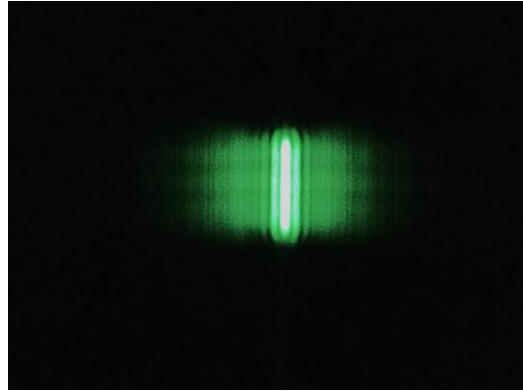
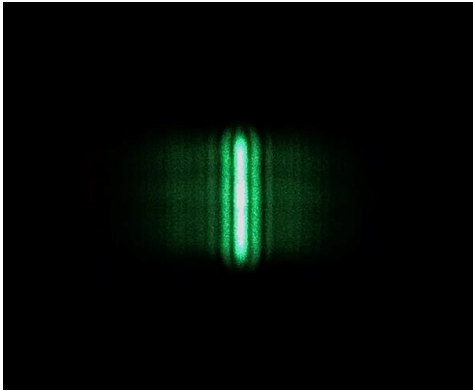
Items	Symbols	HXA520200D HXA520400D
Mode		CW
Wavelength	λ	520nm (central wavelength)
Lens		Glass
Spot	D	Dot
Spot Size	D	<8x20 mm at 20m (for 200mW) <8x42 mm at 20m (for 400mW)
Diameter x Length	$\Phi \times L$	36 x 131.3 mm
Output Power	P_o	<200mW, <400mW
Power Stability		<20%
Divergence Angle	mrad	<0.7
Operating Voltage(DC)	V_o	12 V
CW Operating Current	I_o	800~1000mA, 1200mA max.
Operating Temperature	T_o	0°C ~ +60°C
Storage Temperature	T_s	-40°C ~ +85°C
Housing Material		Aluminum
Mean time to failure		>8000 hrs

Spot size Define

HXA520200D

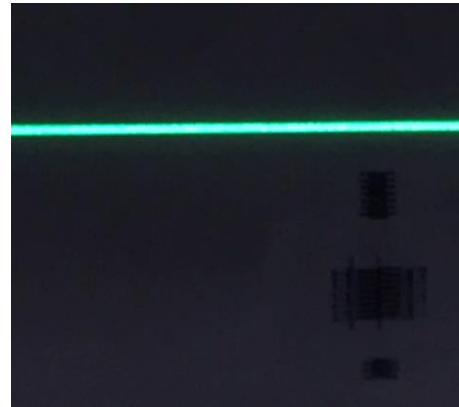
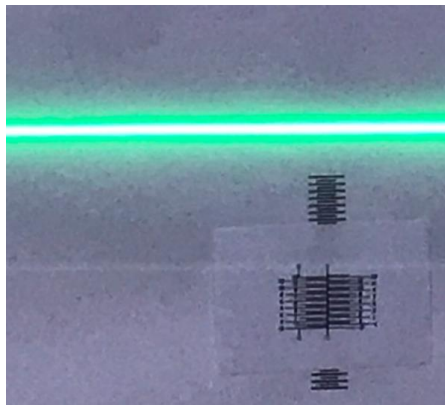


HXA520400D

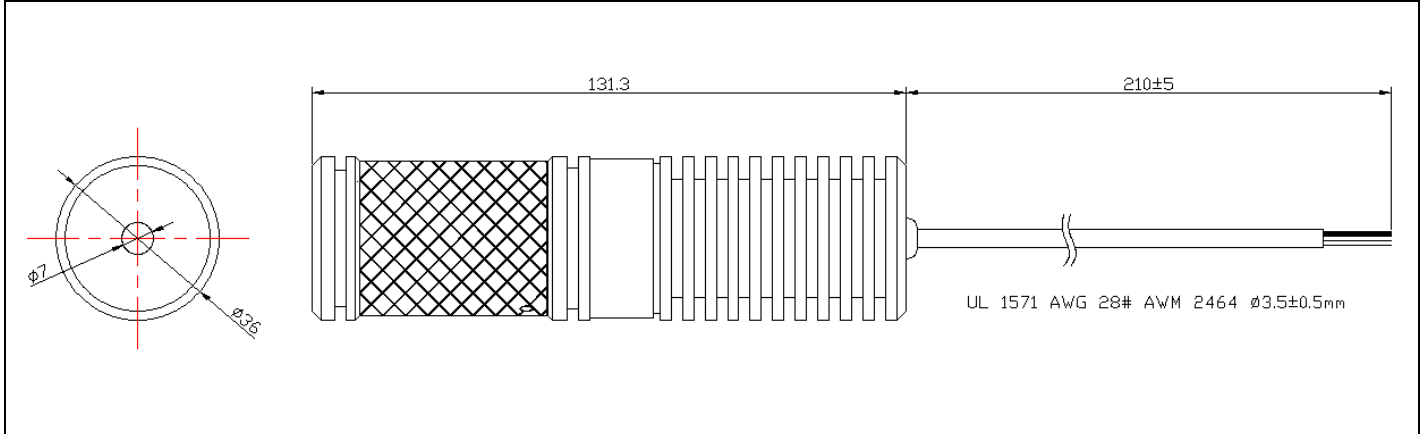


Specifications(T=25°C)

Items	Symbols	HXA520150L HXA520300L
Mode		CW
Wavelength	λ	520nm (center wavelength)
Lens		Glass
Line width	L	<1.5 mm at 1m, Adjustable focus
Spot angle		60 ° , 90 °
Diameter x Length	Φ x L	36 x 131.3 mm
Output Power	P _o	<150mW, <300mW
Power Stability		<20%, 30 minutes to reach optical power balance
Divergence Angle	mrad	<0.7
Operating Voltage(DC)	V _o	12V
CW Operating Current	I _o	800~1000mA, 1200mA max.
Operating Temperature	T _o	0°C ~ +60°C
Storage Temperature	T _s	-40°C ~ +85°C
Housing Material		Aluminum
Mean time to failure		>8000 hrs

Spot size Define


Outline Dimensions



Power Stability

The actual output power is comprised within the range of 120mW to 200mW, which can be adjusted to stable values like $150\text{mW} \pm 30\text{mW}$ or $200\text{mW} \pm 40\text{mW}$ at a room temperature of $25\text{ }^\circ\text{C}$. The power stability is 20%.

Laser Beam

The laser beam is defined as a Gaussian beam. A Gaussian beam is a beam of electromagnetic radiation whose transverse electric field and intensity (irradiance) distributions are well approximated by Gaussian functions. Many lasers emit beams that approximate a Gaussian profile, in which case the laser is said to be operating on the fundamental transverse mode, or "TEM00 mode" of the laser's optical resonator. When refracted by a diffraction-limited lens, a Gaussian beam is transformed into another Gaussian beam (characterized by a different set of parameters), which explains why it is a convenient, widespread model in laser optics.

Mean time to failure (MTTF)

Mean time to failure (MTTF) is the length of time a device or other product is expected to last in operation. MTTF is one of many ways to evaluate the reliability of pieces of hardware or other technology. It's important to note, however, that the mean time to failure metrics provided by companies regarding specific products or components may not have been collected by running one unit continuously until failure. Instead, MTTF data is often collected by running many units, even many thousands of units, for a specific number of hours.

Safety of Laser light

Laser Light can damage the human eyes and skin. Do not expose the eye or skin to any laser light directly and/or through optical lens. When handling the LDs, wear appropriate safety glasses to prevent laser light, even any reflections from entering to the eye. Focused laser beam through optical instruments will increase the chance of eye hazard.

Laser Safety

The light emitted from these devices has been set in accordance with IEC60825. However, staring into the beam, whether directly or indirectly, must be avoided.

Class I

The maximum permissible exposure(MPE) cannot be exceeded, it includes High-power lasers within an enclosure that prevents exposure to the radiation and that cannot be opened without shutting down the laser. For example, a continuous laser at 600nm can emit up to 0.39mW, but for shorter wavelengths, the maximum emission is lower.

Class II

“Caution”, visible laser light less than 1.0mW. Considered eye safe, normal exposure to this type of beam will not cause permanent damage to the retina.

Class IIIA

“Danger”, visible laser light between 1.0mW and 5.0mW. Considered eye safe with caution. Focusing of this light into the eye could cause some damage.

Class IIIB

“Danger”, infrared(IR), and high power visible lasers considered dangerous to the retina if exposed. NB: it is important to note that while complying with the above classifications, unless otherwise stated. Our laser diode products are not certified and are designed solely for use in OEM products. The way in which device is used in the final product may alter its original design classification, and it is the responsibility of the OEM to ensure compliance with the relevant standards.

Specifications are subject to change without notice.

