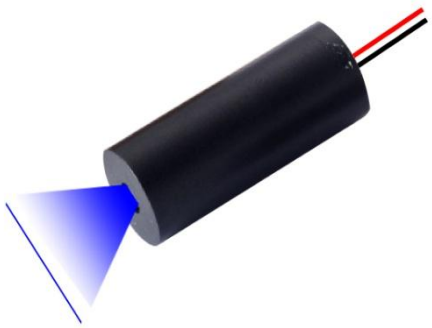
D10mm 450nm Blue Uniform Line Laser Module

Application

Industrial Areas / Entertainment / Robotics



Property

Wavelength = 450nm

Introduction

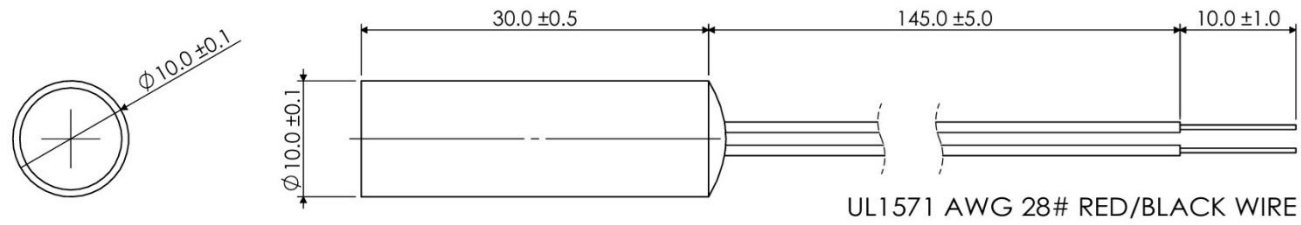
We created high stability and quality uniform line laser modules that are successfully applied in industrial, entertainment, robotics, etc. LM 450nm uniform line laser module series are well recognized by its good quality, high MTTF, good stability and reliability, it also can be custom made as requirements.

Specifications(T=25℃)

Items	Symbols	LM10B450H30U90
Mode		CW (Continuous Wave)
Wavelength	λ	450nm
Lens		Powell Lens
Laser Pattern	P	Uniform Line
Span angle	Ø	30° / 60°/ 90°
Beam Width		<1.5mm @ 1m
Diameter x Length (Housing)	Φ x L	9x25 mm
Output Power	Po	<30mW
Power Stability		<10%
Divergence Angle	mrad	<3
Operating Voltage (DC)	Vo	3V / 5V
CW Operating Current	Io	70mA (typ) / 100mA (max)
Operating Temperature	To	-10℃~+50℃
Storage Temperature	Ts	-20℃~ +85℃
Housing Material		Anodized Aluminum
Mean time to failure		>8000 hrs

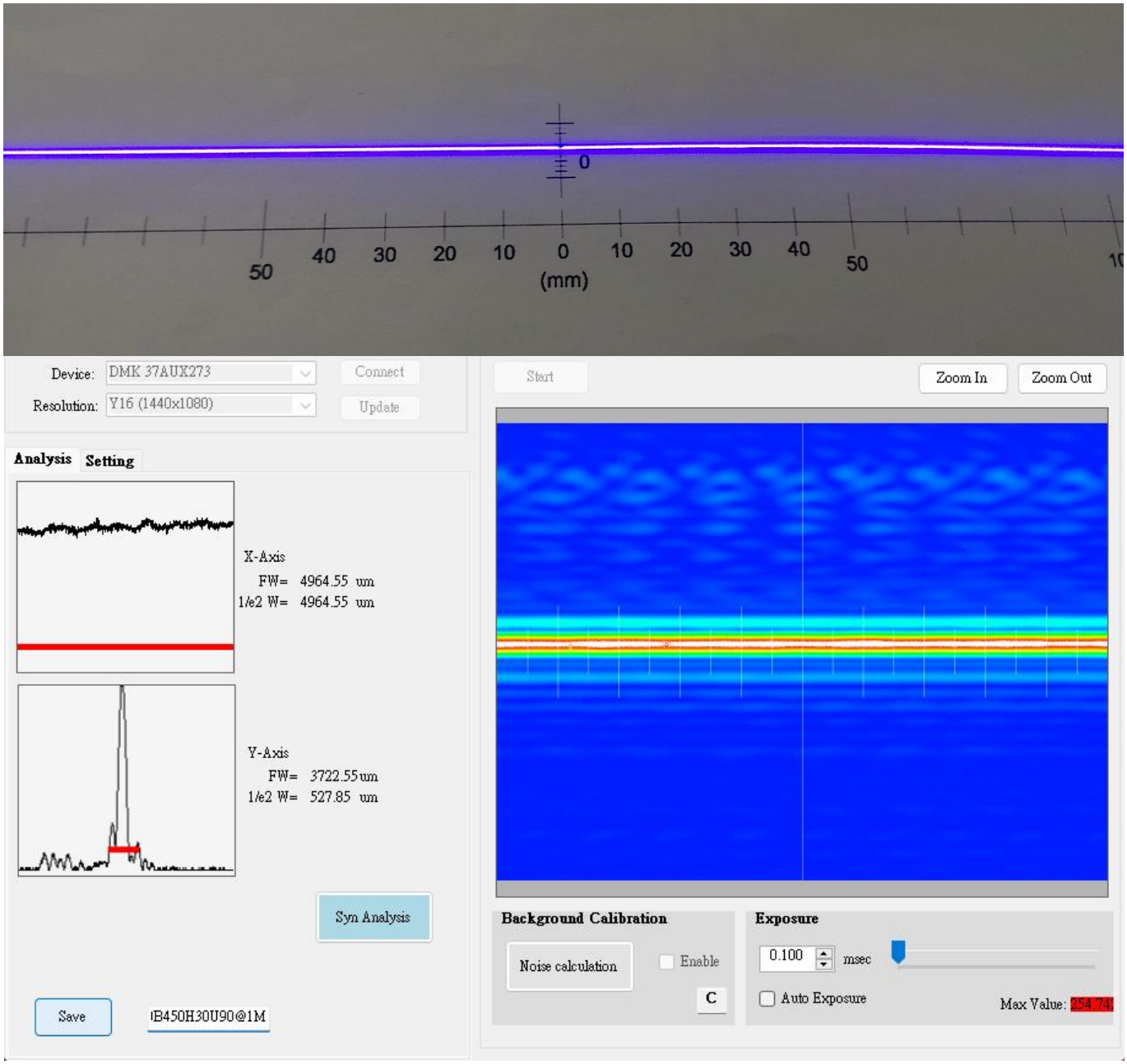
ATTENTION – Observe Precautions for Handling – Electrostatic Sensitive Device

Outline Dimensions



Laser Beam demo example

LM10B450H30U90 Line Performance at 1m



Power Stability

The actual output power range 15mW to 20mW for sample. Typical power will be 20mW±1mW at the 25℃ (room temperature). i.e. the power stability represents 5%.

Spot size

The spot size defined as Gaussian beam. In optics, 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.

Laser Safety

The light emitted from these devices has been set in accordance with IEC60825-1. However, staring into the beam, whether directly or indirectly, must be avoided.

Class 1M

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 2M

"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 3A

"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 3B

"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.