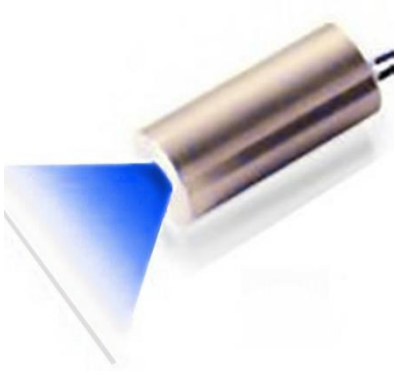
D9mm 450nm Blue Line Laser Module



Application

Industrial Areas / Medical / Biochemical / Laser Tag

Property

Wavelength Range = 450nm

Introduction

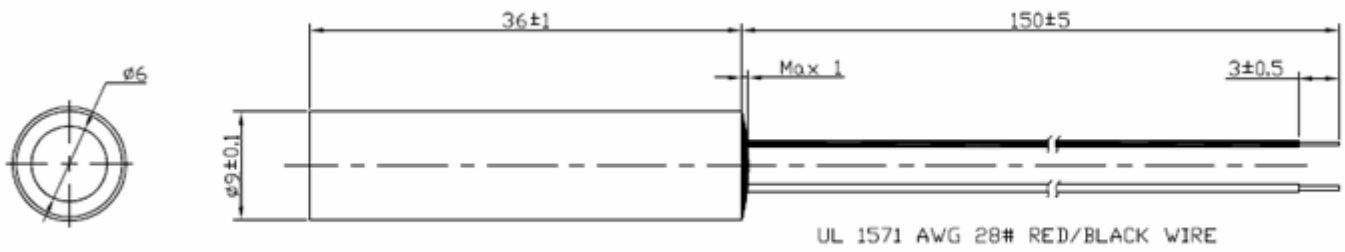
We created high stability and quality blue line laser modules that are successfully applied in industry, laser tag, biomedical, medicine etc. LM9 laser line module series are distinguished by its good quality, high MTTF, good stability and reliability, it also can be custom made as requirements.

Specifications(T=25℃)

Items	Symbols	LM9B450H30L / LM9B450H80L
Mode		CW(Continuous Wave) / PWM(Pulse Width Modulation)
Wavelength	λ	450nm
Lens		Glass
Spot	L	Line
Span angle	L	30°, 60°, 90°, 110°
Line width		<2mm at 300mm
Diameter x Length	Φ x L	9x36mm
Output Power	Po	<30mW / <80mW
Power Stability		<5%
Divergence Angle	mrad	<0.7
Operating Voltage(DC)	Vo	3V / 5V
CW Operating Current	Io	70~90mA, 200mA max(30mw) 85~120mA 200mA max(80mw)
Operating Temperature	To	-20℃~ +60℃
Storage Temperature	Ts	-40℃~ +85℃
Housing Material		Aluminum
Mean time to failure		>10000 hrs

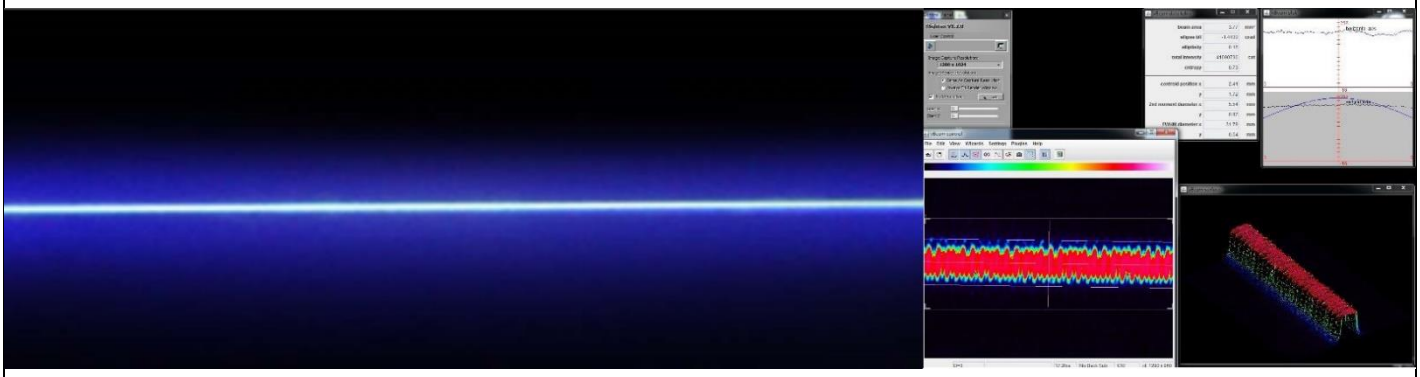
ATTENTION – Observe Precautions For Handling – Electrostatic Sensitive Device

Outline Dimensions



Spot size Define

LM9 series Blue Line Shape at 300mm



Power Stability

The actual output power will between the range 15mW to 21mW, but once make sure the value, for example, 18mW±0.9mW in the 25 ℃ temperature. Then the power stability represent 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. However, staring into the beam, whether directly or indirectly, must be avoided.

CLASS 1M **(FOR DIVERGENT LASER, OUTPUT POWER <0.39MW THROUGH DIA.7MM APERTURE @10CM DISTANCE)**

A Class 1M laser is safe for all conditions of use except when passed through magnifying optics such as microscopes and telescopes. Class 1M lasers produce large-diameter beams, or beams that are divergent. The MPE for a Class 1M laser cannot normally be exceeded unless focusing or imaging optics are used to narrow the beam. A laser can be classified as Class 1M if the power that can pass through the pupil of the naked eye is less than the AEL for Class 1.

CLASS 2M **(FOR DIVERGENT LASER, OUTPUT POWER <1MW THROUGH DIA.7MM APERTURE @10CM DISTANCE)**

A Class 2M laser is safe because of the blink reflex if not viewed through optical instruments. As with class 1M, this applies to laser beams with a large diameter or large divergence, for which the amount of light passing through the pupil cannot exceed the limits for class 2.

Specifications are subject to change without notice.