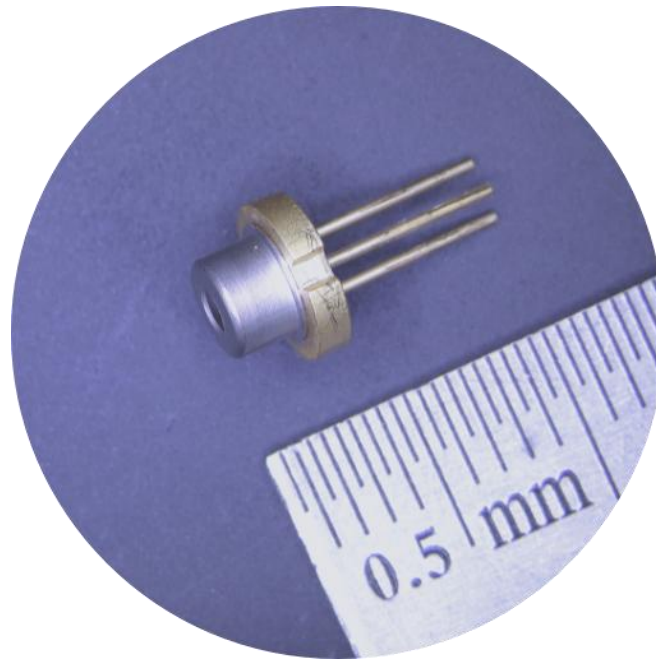


282nm 10mW Deep UV LED Laser Diode



- **Product Description**

A semiconductor deep ultraviolet laser diode emitting at 282nm. This product represents a major breakthrough in UV light source technology, extending the advantages of efficient, compact, and low-power semiconductor laser technology into the deep UV band traditionally dominated by gas lasers (e.g., He-Cd lasers) or solid-state frequency-doubled laser systems. The 282nm wavelength lies within the UVC spectral range, possessing unique physical and chemical effects,



making it an ideal light source for biomedicine, high-precision analysis, and advanced manufacturing.

- **Product features**

Package: 5.6mm floating mount; Transverse multimode output; Optical output power: 10mW

- **Part Number**

MP-UV-282-10-T056

- **Application area**

Biomedicine & Life Sciences | Analytical Chemistry & Sensing | Industrial & Materials Processing

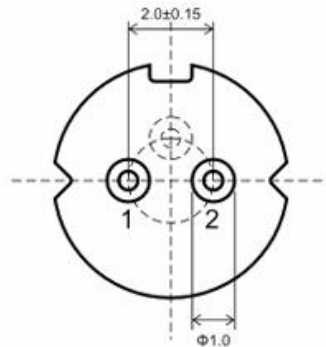
- **Core parameters**

Peak Wavelength
282nm

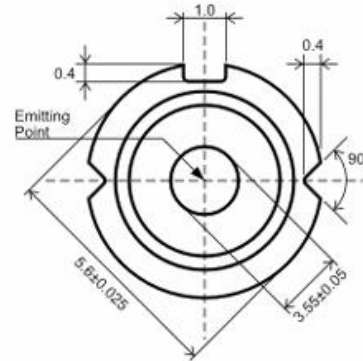
● Dimension Drawing

Bottom View

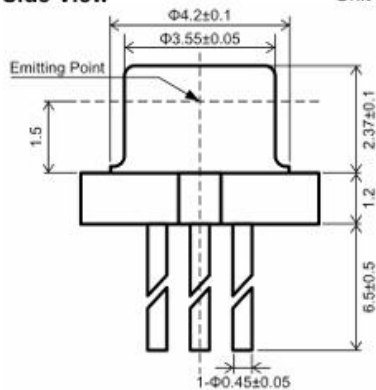
Unit=mm


Top View

Unit=mm


Side View

Unit=mm



● General Parameters

Parameter

Parameter	Condition	Symbol	Min*	Typical	Max*	Unit
Peak Wavelength	$P_o=10\text{mW}$	λ_p		282		nm
Threshold Current	Pulse ^[1]	I_{th}		55		mA
Working Current	$P_o=10\text{mW}$	I_{op}		70		mA
Slope Efficiency	Pulse ^[1]	η		1		W/A
Operating Voltage	$P_o=10\text{mW}$	V_{op}		9		V
Beam	Parallel	$P_o=10\text{mW}$		15		°



Divergence Angle ^[2]	Perpendicular	$P_o=10\text{mW}$	θ_{\perp}		55		°
------------------------------------	---------------	-------------------	------------------	--	----	--	---

*Not yet finalized (under development)

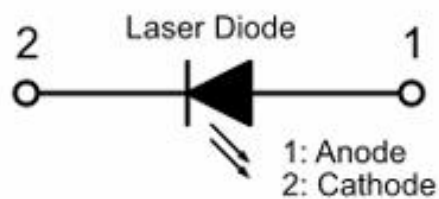
[1] Recommended pulse drive conditions: pulse width 50 μs , duty cycle 1% (200 Hz)

[2] Full angle at $1/e^2$ of peak intensity

Absolute Maximum Ratings

Parameter	Symbol	Absolute Maximum	Unit
Optical Output Power	P_o	15	mW
Allowable Forward Current	I_F	120	mA
Storage Temperature	T_{ST}	20-40	°C
Operating Case Temperature	T_C	20-30	°C

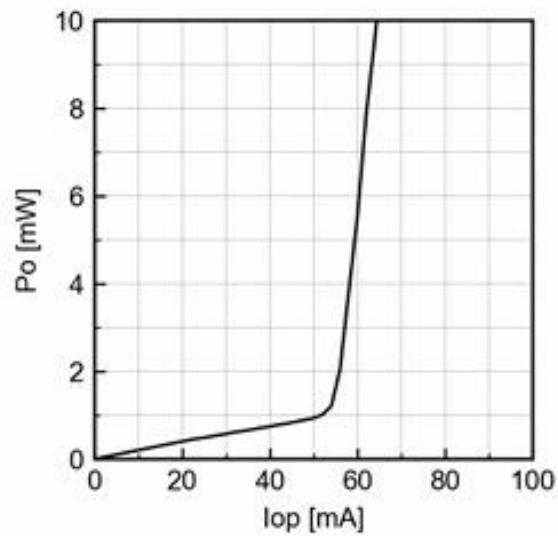
Driving Circuit



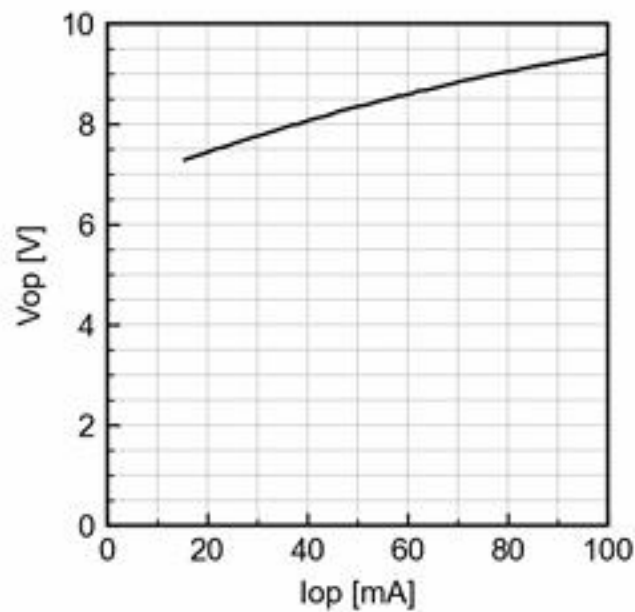
Graphical Data

Drive conditions: pulse width 50 μ s, duty cycle 1% (200 Hz)

I-L Characteristic

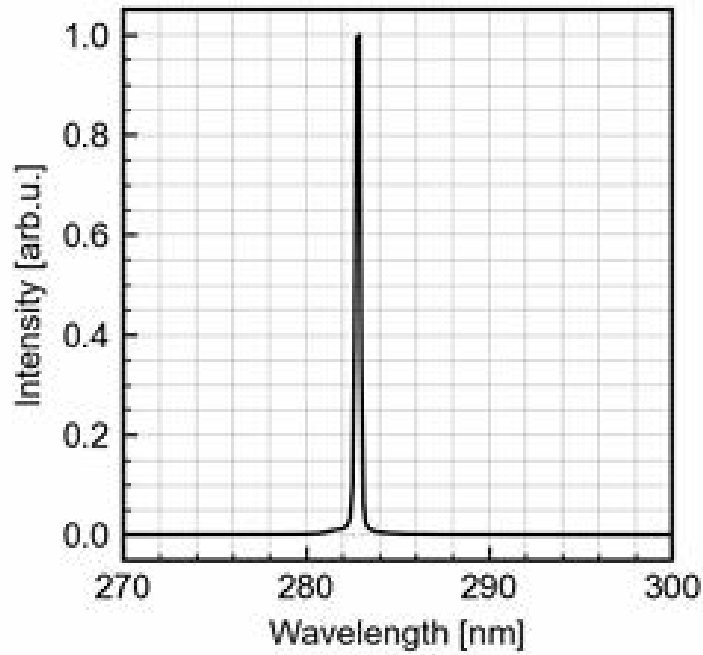


I-V Characteristic



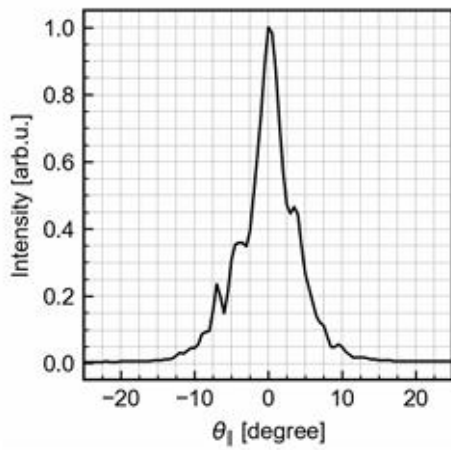
Spectrum

Po=10 mW



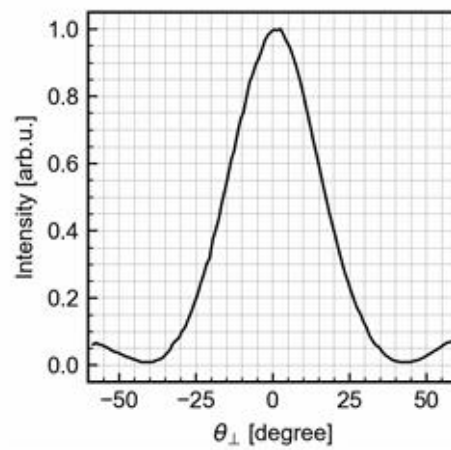
Far Field (Parallel)

Po=10 mW

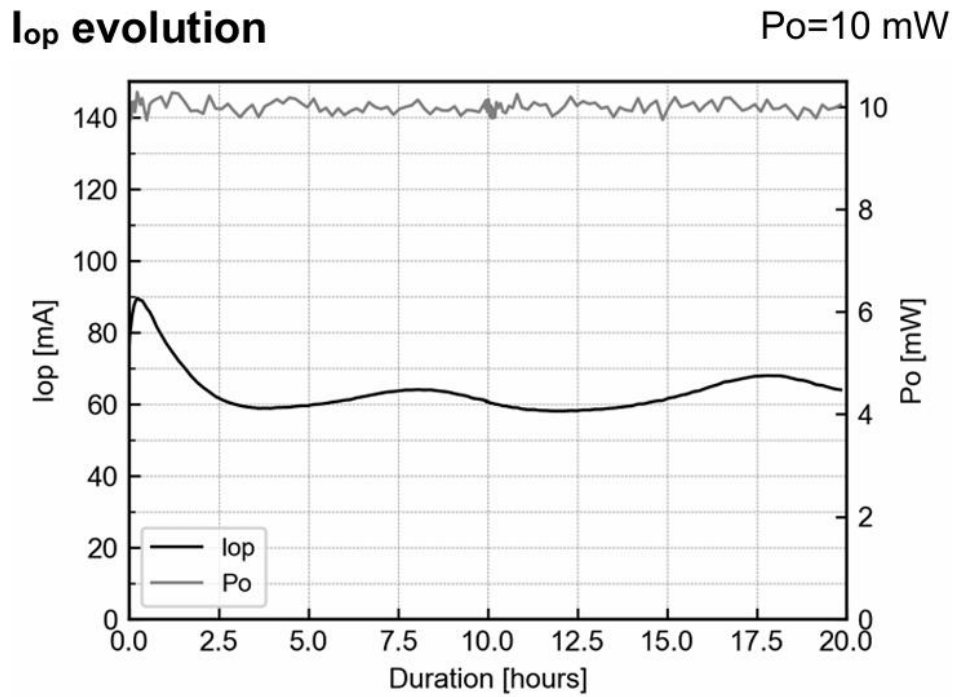


Far Field (Perpendicular)

Po=10 mW



Appendix Data



The figure shows the variation of I_{op} when the automatic power control is set to

$P_o = 10 \text{ mW}$ under pulsed drive conditions ($50 \mu\text{s}$ pulse width, 1% duty cycle).

More significant I_{op} drift may be observed during the initial 2-3 hours.