# CNI lasers for Semiconductor Inspection

The development of advanced technologies worldwide is highly dependent on chips. Chips are made by cutting and combining wafers of different specifications. Due to different levels of technology, wafers may produce redundancy, crystal defects and mechanical damage and other defects. Therefore, wafer inspection becomes particularly important, and the market demand for wafer inspection equipment is huge.

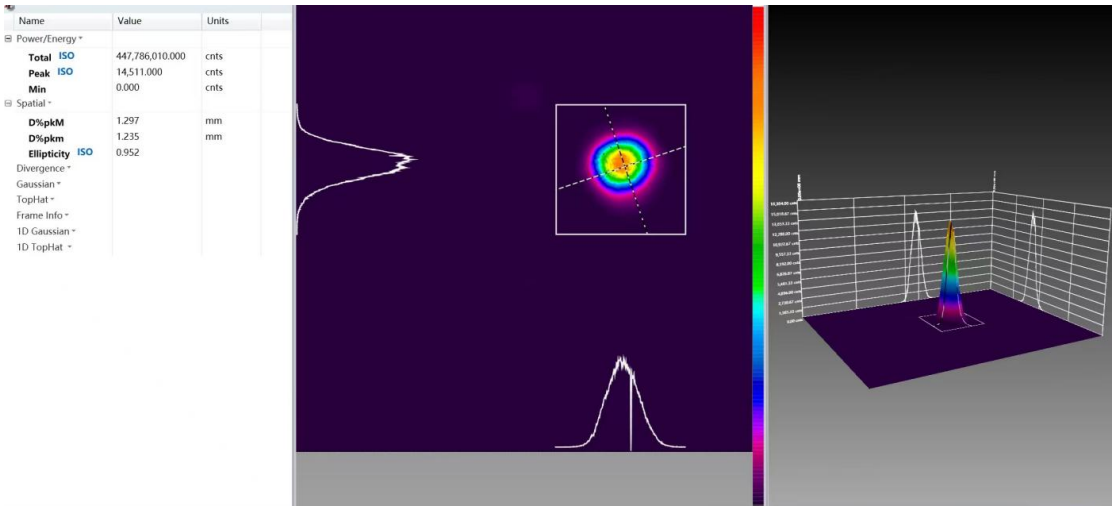
Lasers are widely used in semiconductor inspection process, includes both dark-field and bright-field inspection, analysing and detecting multiple types of defects in semiconductor materials, such as microtubes and micropits, carrot defects and basal dislocations, stacking layer errors and step aggregates, which are of high value to semiconductor device manufacturers.

The relative technology for semeconductor inspection include photoluminescence, interferometry, fluoresence, raman spectroscopy and ellipsometry.

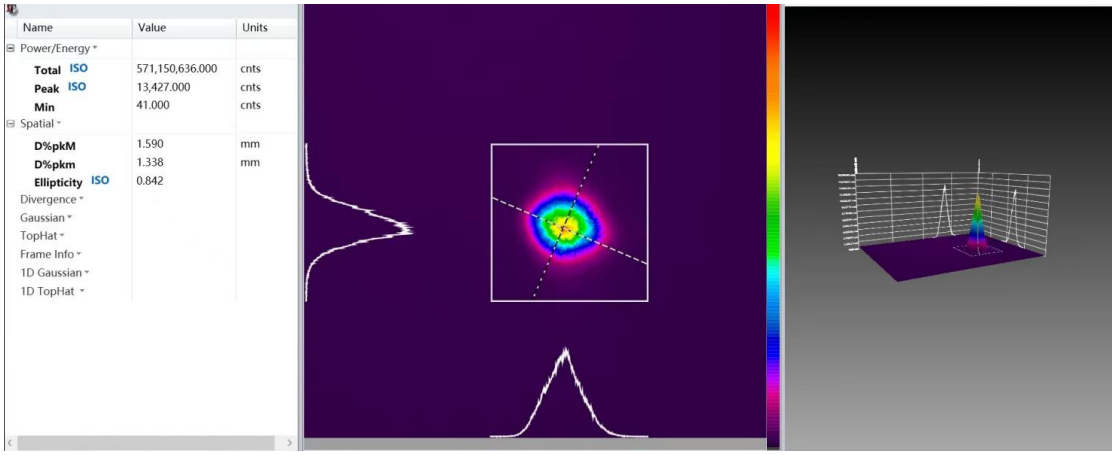
CNI laser provide the UV lasers from 193-400nm such as 303nm, 313nm, 320nm, 325nm, 349nm, 360nm and the SLM lasers in UV、blue、red and green wavelength. They are inherently single frequency with excellent long lifetime, high power stability, perfect beam profile and low optical noise.

## UV-DP-B series laser specs:

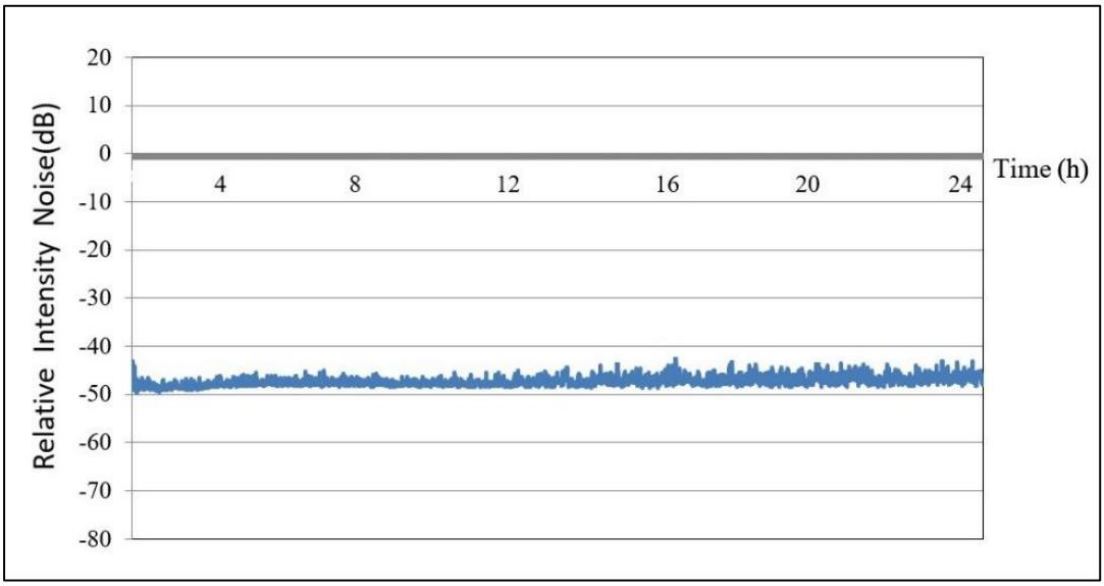
| Wavelength(nm) | 261 | 313 | 320 | 340 | 349 | 360 |
|---|---|---|---|---|---|---|
| Operating mode | CW | | | | | |
| Output power(mW) | 1~1000 | 1~2000 | 1~3000 | 1~100 | 1~800 | 1~800 |
| Power stability (rms, 4hrs) | <0.5% | | | | | |
| Noise of amplitude (rms, 1Hz-20MHz) | <1% | | | | | |
| Polarization ratio | >100:1 | | | | | |
| Power supply | 12VDC (electrical integrated) | | | | | |
| Cooling method | Water cooled | | | | | |



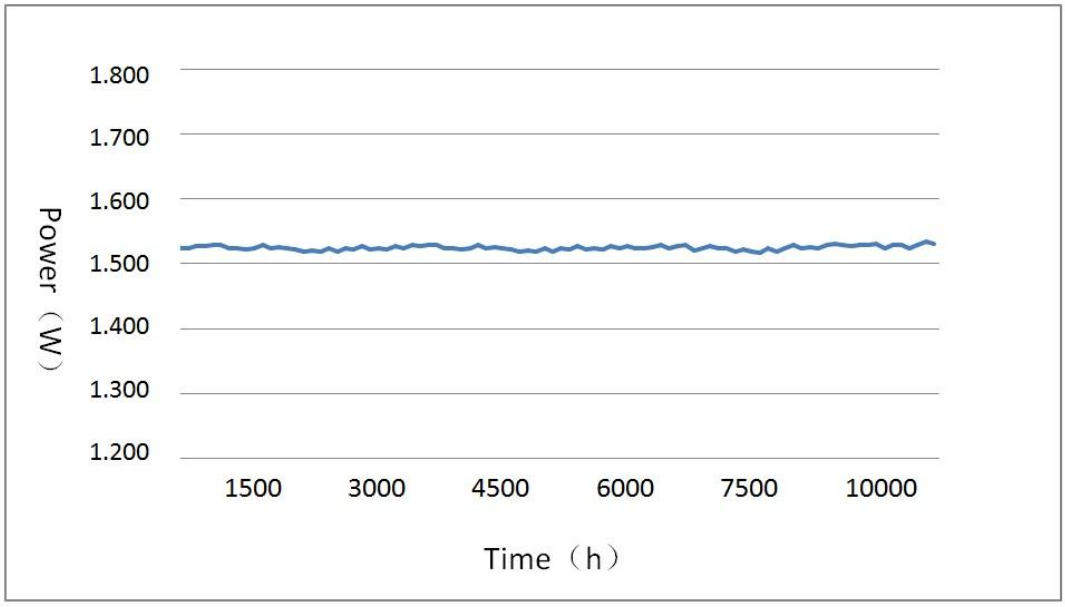

320nm laser beam profile



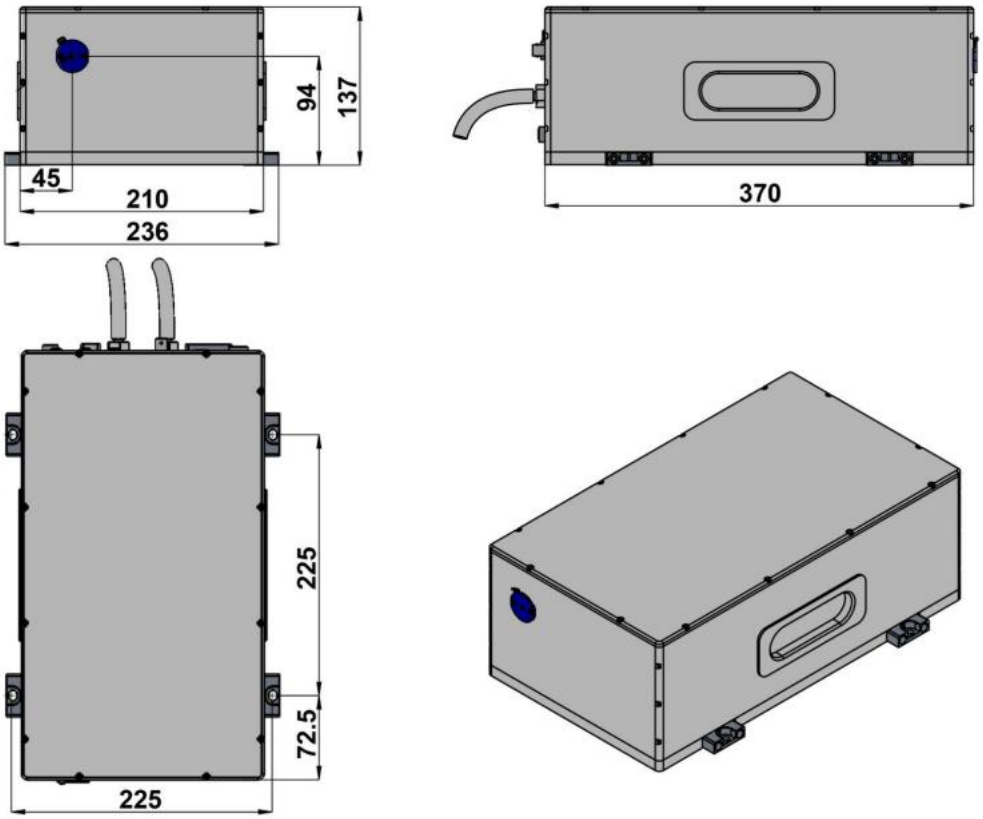

261nm laser beam profile




24hours noise of amplitude




320nm laser lifetime testing




UV-DP-B model dimension(electrical integrated)