Nichia NUBM44 450nm 6w 9mm Brand New

NUBM44 is a 445nm laser diode that emits 6W of power. It is the highest power available currently from any laser diode in a 9mm TO-Can (TO-5 package). Although NUBM44 is specified with a typical center wavelength of 445nm, it is sometimes referred to as a 450nm laser diode in certain literature. Although this is a multimode laser diode, it has an extremely narrow waveguide, which allows it to have nearly the lowest etendue (far field divergence for a given beam diameter) of any high-power semiconductor laser. The narrow emitter width allows it to be better collimated and focused than other high-power laser diodes.

- 6.0W blue laser diode at 445nm
- Highly focusable and able to be well-collimated
- Compact TO-5 (9mm) TO-Can package
- wide operating temperature range of 0C to 65C
- Gallium Nitride blue laser technology allows longer lifetimes at elevated temperatures

Design Wavelength: 445 nm
Operating Current Typ [A]: 3 A
Operating Temp. Range: 0 to +60 °C
Operating Voltage: 3,7 - 5,2 V
Package: TO-5
Threshold Current: 150 - 350 mA
Storage Temperature Range: -40 to 85 °C
Optical Power @ 20°C [W]: 6 W
Estimated lifetime: 10000 h

This blue laser diode is relatively impervious to operating temperature compared to other high-power semiconductor lasers and has a case operating temperature range of 0C to 65C. NUBM44 has a typical lifetime of 20,000 hours at 25C. However, if the blue laser's case temperature is heated to 65C, the lifetime decreases by only a small factor. This is only possible due to the recently developed Gallium Nitride laser technology. Low long-term degradation levels at elevated temperatures cannot be achieved with the current Gallium Arsenide laser technology that is used for red and NIR laser diodes. Thus, this blue laser diode is a reliable choice for various environments and applications. Additionally, this GaN laser has a special TO-5 (9mm) package, which allows it to have a lower thermal resistance than is typically possible for a laser diode at this power level. The 9mm TO-Can is also hermetically sealed, which protects the semiconductor laser chip from dust and other contamination. In contrast, high-power red and NIR laser diodes typically require a C-mount package, which have an exposed facet,

making them subject to issues with reliability if not operated in a cleanroom environment.