

NDV4B16E

Engineering Sample

■Features

• Optical Output Power: CW 300mW (@Tc=25°C)

• Peak Wavelength: 405nm

• Can Type: ϕ 5.6 Floating Mounted with Photo Diode and Zener Diode

■ Absolute Maximum Ratings

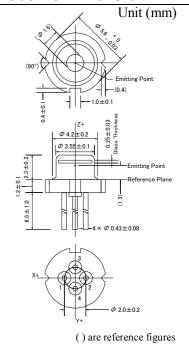
Item	Symbol	Absolute Maximum Ratings	Unit
Optical Output Power(Tc=25°C)*	Po	360	mW
Allowable Reverse Current	Ir (LD)	85	mA
PD Reverse Voltage	Vr (PD)	5	V
Storage Temperature	Tstg	-40 ~ 85	°C
Operating Case Temperature	Тс	0 ~ 70	°C

■Initial Electrical/Optical Characteristics

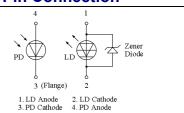
(Tc=25°C)

initial Electrical/Optical Characteristics (1c-23°C)									
Item		Condition	Symbol	Min	Тур.	Max	Unit		
Optical Output Power*		CW	Po	-	-	300	mW		
Peak Wavelength		Po=300mW	λр	400	405	410	nm		
Threshold Current		CW	Ith	-	33	40	mA		
Operating Current		Po=300mW	Iop	-	230	280	mA		
Slope Efficiency		CW	η	1.3	1.6	1.9	W/A		
Operating Voltage		Po=300mW	Vop	-	5.2	5.8	V		
Beam Divergence**	Parallel	Po=300mW	θ//	8.0	10.0	12.0	0		
	Perpendicular		$\theta \bot$	15.0	20.0	23.0	0		
Beam Pointing Accuracy	Parallel	Po=300mW	Δθ//	-2.0	1	2.0	0		
	Perpendicular		$\Delta \theta \perp$	-2.5	-	2.5	0		
Monitor Current***		Po=300mW	Im	0.2		2.0	mA		

Outline Dimension



Pin Connection



This model has a Zener Diode built in as a protection circuit against static electricity.

♦ Optical Output Power vs. Case Temperature

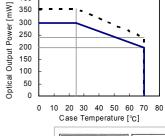
* Refer graph of Optical Output Power vs. Case Temperature

All figures in this specification are measured by Nichia's method and may contain measurement deviations

This model is Engineering Sample for evaluation or design purpose only. Life time is not guaranteed. The above specifications are for reference purpose only and subjected to change without prior notice.

Safety of Laser light

- Laser Light can damege the human eyes and skin. Do not expose the eye or skin to any laser light directly and/or through
 optical lens. When handling the LDs, wear appropriate safety glasses to prevent laser light, even any reflections from entering
 to the eye. Focused laser beam through optical instruments will increase the chance of eye hazard.
- These LDs are classified in Class 4 of IEC60825-1 and 21 CFR Part 1040.10 Safety Standards. It is absolutely necessary
 to take overall safety measures against User's modules, equipment and systems into which Nichia LDs are incorporated
 and/or integrated.





NICHIA CORPORATION

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♦ HEADQUARTERS

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◆ CONTACT

TOKYO SALES OFFICE

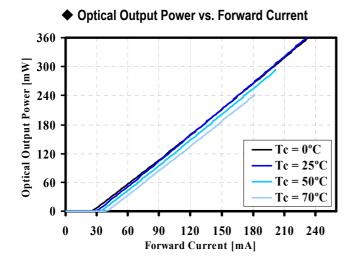
13F Tamachi Center Building 34-7, Shiba 5-Chome, Minato-Ku, TOKYO 108-0014, JAPAN PHONE: +81-3-3456-3108 FAX: +81-3-5440-7330

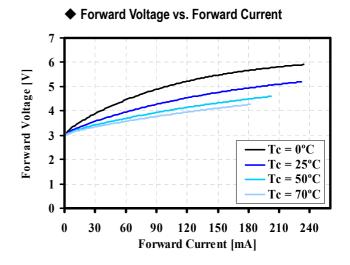
^{**} Full angle at 50% from peak intensity

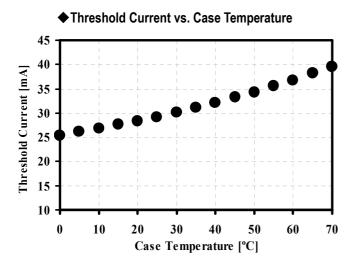
^{***} Monitor Current is short time power reference purpose only. Not guaranteed for accuracy.

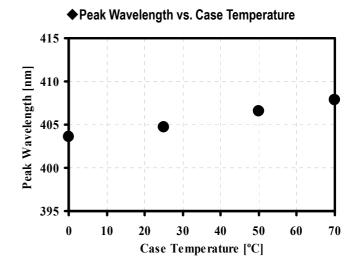


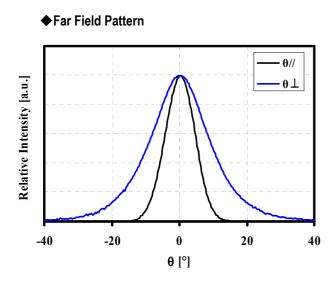
■Typical Characteristics

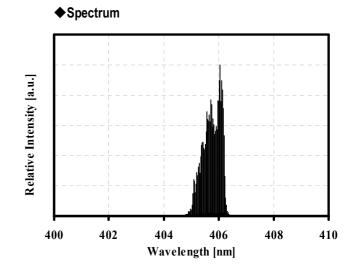














■Cautions

(1) Operating method

- The LD shall change its forward voltage requirement and optical output power according to temperature change. Also, the LD will require more operation current to maintain same output power as it degrades. In order to maintain output power, use of APC (Automatic Power Control) is recommended, which use monitor feedback to adjust the operation current.
- Confirm that the optical output power generated by spike current when switching on and off does not exceed the maximum absolute rating. Also, employ appropriate countermeasures to reduce chattering and/or overshooting in the Circuit.

(2) Static Electricity

• Static electricity or electrical surges will reduce and degrade the reliability of the LDs. It is recommended to use a wrist strap or anti-electrostatic glove when handling the Product.

(3) Absolute Maximum Rating

• Active layer of LDs shall have high current density and generate high electric field during its operation. In order to prevent excessive damage, the LD must be operated strictly below Absolute Max Rating.

(4) Others

- Nichia LDs described in this brochure are intended to be used for ordinary electronic equipment (such as office equipment, communications equipment, measurement instruments and household appliances). Consult Nichia's sales staff in advance for information on the applications in which exceptional quality and reliability are required, particularly when the failure or malfunction of the LDs may directly jeopardize life or health (such as for airplanes, aerospace, submersible repeaters, nuclear reactor control systems, automobiles, traffic control equipment, life support systems and safety devices).
- The Purchaser must acknowledge that any LD can be failed statically and must design its equipments fail safe design. Prior to use of the LD, please confirm that the LD, as described in Nichia's specifications, meets the life expectancy needs of, and provides the features required by the Circuit and any related modules, equipment and/or systems.
- Due to its short wavelength and high optical output power, optical depositions on optical path may occur depending on surrounding conditions. Appropriate design or countermeasures should be used to avoid optical depositions.
- Nichia prohibit Purchaser from reverse engineering, disassembling, or taking any other steps to derive the structure or design of the LD.
- The appearance and specifications of the product may be modified for improvement without notice. The formal specifications must be exchanged and signed by both parties before large volume purchase begins.
- No unauthorized transmission or reproduction of this document, either in whole or in part, is permitted.