

## TO38 405nm 320mw Nichia NDV4542 Blue Violet Laser Diode

### Feature

- Optical Output Power: Pulse 320mW
- Can Type :  $\phi$  Floating Mounted
- Peak Wavelength: 405nm

### Absolute Maximum Ratings

- Optical Output Power: 250 mW(CW), 400mW( Pulse)
- LD Reverse Voltage: 2V
- Storage Temperature: -40 ~ 85 °C
- Operating Case Temperature: -10 ~ 80 °C

Pulse Condition: Pulse Width 30ns,Duty 50%

### Safety of Laser light

- Laser Light can damage 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.



Violet Laser Diode

# NDV4542

[ UTZ-SC0153\_1 ]

## ■ Features

- Optical Output Power: Pulse 320mW
- Can Type:  $\phi 3.8$  Floating Mounted
- Peak Wavelength: 405nm

## ■ Absolute Maximum Ratings

(Tc=25°C)

Item	Symbol	Absolute Maximum Ratings	Unit	
Optical Output Power	CW	Poc	200	mW
	Pulse	Pop	400 *	mW
LD Reverse Voltage	Vr (LD)	2	V	
Storage Temperature	Tstg	-40 ~ 85	°C	
Operating Case Temperature	Tc	-10 ~ 80	°C	

\* Pulse Condition: Pulse Width 30ns, Duty 50%

## ■ Initial Electrical/Optical Characteristics

(Tc=25°C)

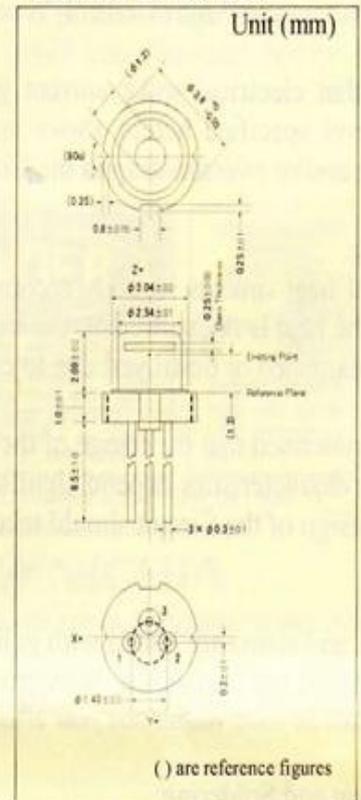
Item	Condition	Symbol	Min	Typ.	Max	Unit	
Optical Output Power	CW	Po	-	-	100	mW	
Peak Wavelength*	Po=100mW	$\lambda_p$	400	405	410	nm	
Threshold Current	CW	Ith	-	35	50	mA	
Operating Current	Po=100mW	Iop	-	100	130	mA	
Slope Efficiency	CW	$\eta$	1.1	1.4	1.9	W/A	
Operating Voltage	Po=100mW	Vop	-	4.6	5.5	V	
FWHM Beam Divergence*	Po=100mW	$\theta_{//}$	7.0	9.0	12.0	deg.	
		$\theta_{\perp}$	15.0	19.5	23.0	deg.	
Emission Point Accuracy	Angle	Po=100mW	$\Delta\theta_{//}$	-2.0	-	2.0	deg.
			$\Delta\theta_{\perp}$	-2.5	-	2.5	deg.

\* Measuring specifications

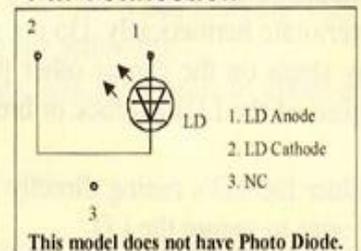
All figures in this specification are measured by Nichia's method and may contain measurement deviations.

The above specifications are for reference purpose only and subjected to change without prior notice.

## Outline Dimension



## Pin Connection





# CAUTION

## ELECTROSTATIC SENSITIVE DEVICES

- Our laser diode is very sensitive to ESD (electronic static discharge). Take Care of handling it.
- Handle our laser diode where taking measure to avoid ESD.
- Take all possible measures as listed below to avoid as much ESD as possible.

### Check lists to handle laser diode

#### 1. Equipment

<input type="checkbox"/>	Use a grounded conductive floor mat and grounded tablemat.
<input type="checkbox"/>	Grounded the workbench and floor.
<input type="checkbox"/>	Take measures against ESD with chairs.
<input type="checkbox"/>	Transport and store laser diodes in cases that provided protection against static electricity.
<input type="checkbox"/>	Do not put things that generate static charges.
<input type="checkbox"/>	Grounded the shelf or rack, which stores laser diodes.
<input type="checkbox"/>	Use tools to increase electrical neutralization, such as ion blowers.
<input type="checkbox"/>	Keep working environment at a high humidity (preferable greater than 50%)

#### 2. Users and Operators

<input type="checkbox"/>	Do not wear things, which easily generate ESD. (Ex. Wears made by plastic goods and synthetic fiber.)
<input type="checkbox"/>	Put on work clothes gloves, shoes to protect against static electricity.
<input type="checkbox"/>	Put on conductive strap (wrist strap) grounded via a high resistance (1MΩ).
<input type="checkbox"/>	Contact conductive strap with your base skin.
<input type="checkbox"/>	Do not handle or operate laser diode roughly.

This checklist is reference to avoid ESD and can not be prevented ESD perfectly.