

# BLUE-VIOLET LASER DIODE

## DL-6146-301

# SANYO

Ver. 1 Feb. 2005

### Features

- Short wavelength : 405 nm (Typ.)
- Light Output: 50mW CW at 100mW (pulse)
- Low threshold current :  $I_{th} = 40\text{mA}$  (Typ.)
- Package :  $\phi 5.6\text{ mm}$

### Applications

Next generation DVD  
Laser module

### Absolute Maximum Ratings

( $T_c=25^\circ\text{C}$ )

Parameter		Symbol	Ratings	Unit
Light Output	CW	$P_o$ (CW)	50	mW
	Pulse <sup>1)</sup>	$P_o$ (pulse)	100	
Reverse Voltage	Laser	VR	2	V
Operating Temperature		$T_{opr}$	0 to +70	$^\circ\text{C}$
Storage Temperature		$T_{stg}$	-40 to +85	$^\circ\text{C}$

1) Pulse Width < 0.1 $\mu\text{s}$ , Duty 50%

### Electrical and Optical Characteristics <sup>1) 2)</sup>

( $T_c=25^\circ\text{C}$ )

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current		$I_{th}$	CW	-	40	60	mA
Operating Current		$I_{op}$	$P_o=50\text{mW}$	-	80	120	mA
Threshold Voltage		$V_{th}$	CW	-	4.8	6.0	V
Operating Voltage		$V_{op}$	$P_o=50\text{mW}$	-	5.6 <sup>4)</sup>	7.0	V
Lasing Wavelength		$L_p$	$P_o=50\text{mW}$	395	405	415	nm
Beam <sup>3)</sup> Divergence	Perpendicular	Qv	$P_o=50\text{mW}$	16	20	24	$^\circ$
	Parallel	Qh	$P_o=50\text{mW}$	6	9	14	$^\circ$
Off Axis Angle	Perpendicular	dQv	$P_o=50\text{mW}$	-3	-	3	$^\circ$
	Parallel	dQh	$P_o=50\text{mW}$	-2	-	2	$^\circ$
Differential Efficiency		SE	$P_o=50\text{mW}$	0.8	1.2	-	mW/mA

1) Initial values 2) All the above values are evaluated with Tottori Sanyo's measuring apparatus

3) Full angle at half maximum 4) Operating Voltage of this laser is higher than conventional laser(5.6V)

Note : The above product specification are subject to change without notice.

