520nm 30mW Laser Diode, ⌀5.6mm (TO-18) Package
LD520A30C16

Data Sheet

Features

- 520nm InAlGaN MQW Green Laser Diode
- Optical output power: 30mW CW
- High temperature operation: 60ºC
- TE oscillating transverse mode
- Package: ⌀5.6mm, TO-18

Applications

- OA equipment & Audio-visual equipment
- Home appliance
- Telecommunication equipment (Terminal)
- Measuring equipment
- Tooling machines
- Computers

Absolute Maximum Ratings (T_C = 25 ºC [1])

PARAMETER	SYMBOL	CONDITION	RATING	UNIT
Optical output power	P_o	CW	35	mW
Reverse voltage (LD)	V_{RL}	-	2	V
Reverse voltage (PD)	V_{RD}	-	30	V
Operating temperature (Case temperature)	$T_{opc(c)}$	CW	-10 to +60	ºC
Storage temperature	T_{stg}	-	-40 to +85	ºC
Soldering temperature [2]	T_{sld}	-	350	ºC

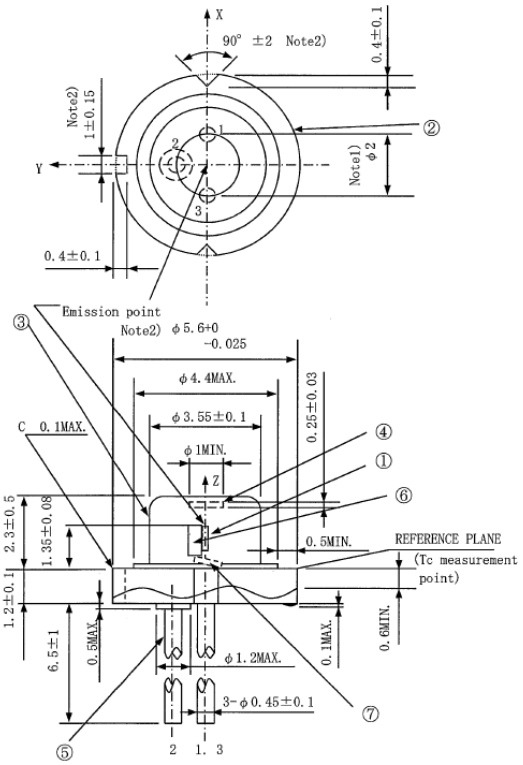
Notes:
1. T_C: Case temperature (T_C measurement point is referenced to P3 drawing).
2. Soldering temperature means soldering iron tip temperature while soldering. Soldering position is 1.6mm apart from bottom edge of the case (Immersion time: ≤3s).

Electrical and Optical Characteristics (T_C = 25 ºC, CW unless otherwise noted)

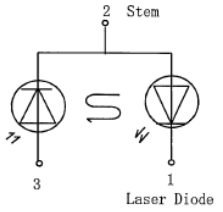
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Threshold current	I_{th}	-	25	45	mA	
Operating current	I_{op}	-	70	90	mA	P_o = 30mW
Operating voltage	V_{op}	-	6.5	7	V	P_o = 30mW
Wavelength	λ_p	515	520	530	nm	P_o = 30mW
Half Intensity Angle (Parallel)	$\Theta_{//}$	5	7	9	deg	P_o = 30mW
Half Intensity Angle (Perpendicular)	$\Theta_{\perp}$	19	22	25	deg	P_o = 30mW
Ripple	RI2	-	-	30	%	P_o = 30mW
Misalignment angle (Parallel)	$\Delta\ \Theta_{//}$	-3	0	+3	deg	P_o = 30mW
Misalignment angle (Perpendicular)	$\Delta\ \Theta_{\perp}$	-3	0	+3	deg	P_o = 30mW
Differential Efficiency	ηd	0.45	0.65	-	mW/mA	$\frac{20\text{mW}}{\text{I}(30\text{mW}) - \text{I}(10\text{mW})}$
Kink	K-LI	-10	-	10	%	P1=7mW, P2=21mW, P3=35mW
Monitor current	I_m	0.05	0.3	0.55	mA	P_o = 30mW, V_{rd}=5V

Mechanical Outline (unit: mm)

General Tolerances ±0.2mm



Pin Configuration



Notes:

1. Dimension of the bottom of leads.
2. These dimensions are valid only in the range of 0~0.6mm below from the reference plane.

Additional Notes

- Do not operate the device above maximum ratings. Doing so may cause unexpected and permanent damage to the device.
- Take precautions to avoid electrostatic discharge and/or momentary power spikes. A change in the characteristics of the laser or premature failure may result.
- Proper heat sinking of the device assures stability and lifetime. Always ensure that maximum operating temperatures are not exceeded.
- Observing visible or invisible laser beams with human eye directly, or indirectly, can cause permanent damage. Use a camera to observe the laser.
- No laser device should be used in any application or situation where life or property is at risk in the event of device failure.
- Specifications are subject to change without notice. Ensure that you have the latest specifications by contacting us prior to purchase or use of the product.