



515nm 30mW Laser Diode, \varnothing 5.6mm (TO-18) Package LD515A30C16

Data Sheet

Features

- 515nm Visible Green Laser Diode
- Optical output power: 30mW CW
- High temperature operation: 60°C
- TE oscillating transverse mode
- Package: \varnothing 5.6mm, TO-18

Applications

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

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

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)	$T_{op(c)}$	CW	-10 to +60	$^\circ\text{C}$
Storage temperature	T_{stg}	-	-40 to +85	$^\circ\text{C}$
Soldering temperature	T_{sld}	-	350	$^\circ\text{C}$

Note: Soldering temperature means soldering iron tip temperature (The power 20W) while soldering. Soldering position is 1.6mm apart from bottom edge of the case (Immersion time: $\leq 3\text{s}$).

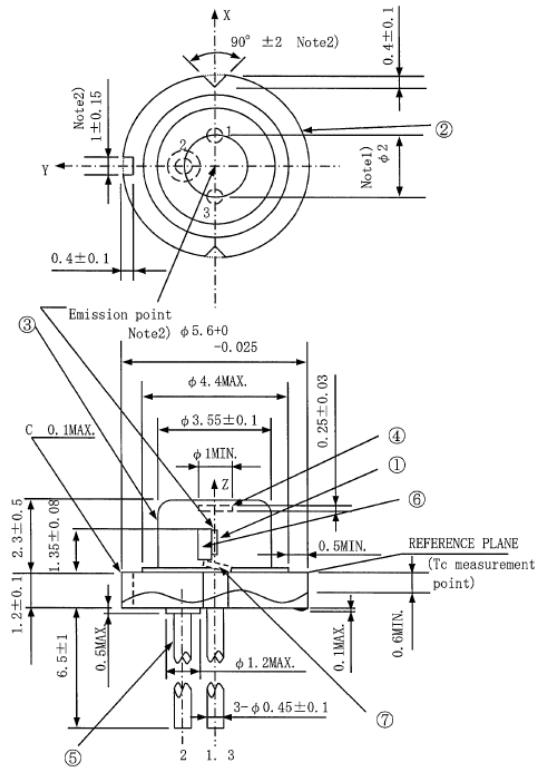
Electrical and Optical Characteristics ($T_c = 25^\circ\text{C}$, CW unless otherwise noted)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Threshold current	I_{th}	-	30	60	mA	
Operating current	I_{op}	Refer to Note 1			mA	$P_o = 30\text{mW}$
Operating voltage	V_{op}	-	6.5	7.5	V	$P_o = 30\text{mW}$
Wavelength	λ_p	508	515	530	nm	$P_o = 30\text{mW}$
Half Intensity Angle (Parallel)	$\Theta_{//}$	5	7.5	10	deg	$P_o = 30\text{mW}$
Half Intensity Angle (Perpendicular)	Θ_{\perp}	19	22	25	deg	$P_o = 30\text{mW}$
Ripple	RI2	-	-	30	%	$P_o = 30\text{mW}$
Misalignment angle (Parallel)	$\Delta \Theta_{//}$	-3	0	+3	deg	$P_o = 30\text{mW}$
Misalignment angle (Perpendicular)	$\Delta \Theta_{\perp}$	-3	0	+3	deg	$P_o = 30\text{mW}$
Differential Efficiency	η_d	0.35	0.55	-	mW/mA	$\frac{20\text{mW}}{I(30\text{mW}) - I(10\text{mW})}$
Kink	K-LI	-10	-	10	%	$P_1=7\text{mW}, P_2=21\text{mW}, P_3=35\text{mW}$
Monitor current	I_m	0.1	0.4	0.8	mA	$P_o = 30\text{mW}, V_{rd}=5\text{V}$

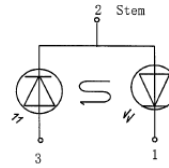
Note:

- Rank division. These products are divided by I_{op} value. Each rank is described in package label.
 - Rank 1 – Operating Current: Max 90mA, Condition $P_o = 30\text{mW}$
 - Rank 2 – Operating Current: Max 105mA, Condition $P_o = 30\text{mW}$

Mechanical Outline (unit: mm)

General Tolerances ± 0.2 mm

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.