LD405x150C17

405nm 150mW Violet Laser Diode, TO-18 (5.6 mm) Package

Data Sheet

Features

- 405nm InAlGaN MQW Blue Violet Laser Diode
- Optical output power: 150mW CW
- High temperature operation: +75°C
- TE Oscillating transverse mode
- Package: TO-18, ⌀5.6mm

Ordering Information

Part Number	Description
LD405A150C17	405nm 150mW Laser Diode, TO-18 (5.6mm) Package, with PD
LD405D150C17	405nm 150mW Laser Diode, TO-18 (5.6mm) Package, no PD

Absolute Maximum Ratings (T_c-25°C)

Parameter	Symbol	Rating	Unit
Light output power (CW)	P_O	155	mW
Reverse voltage (LD)	V_{RL}	2	V
Operating temperature (Case)	T_{op}	-10 to +75	°C
Storage temperature	T_{stg}	-40 to +85	°C
Soldering temperature	T_{sld}	350	°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: ≤3s)

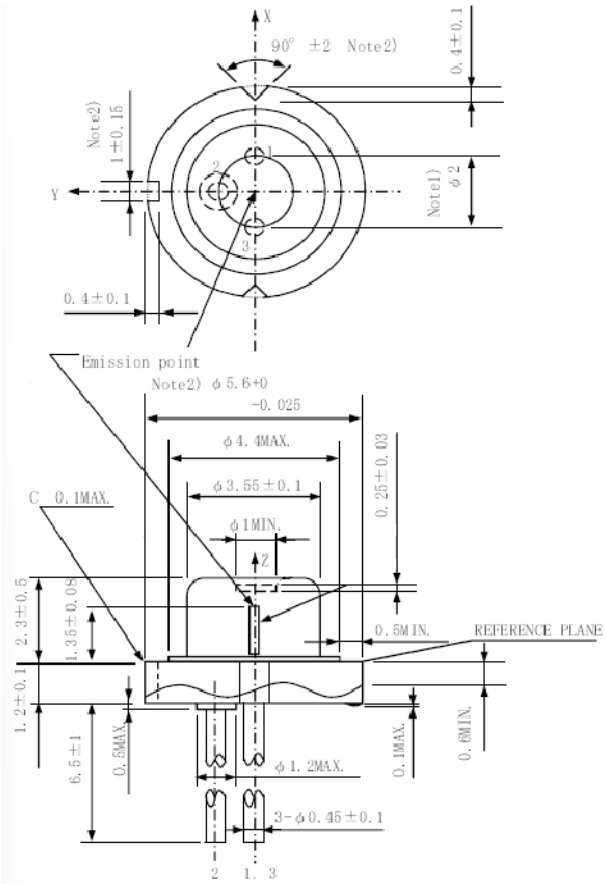
Electrical and Optical Characteristics (T_c-25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Lasing wavelength	λ_p	400	405	410	nm	P_O = 150mW
Threshold current	I_{th}	-	40	70	mA	
Operating current	I_{op}	-	130	180	mA	P_O = 150mW
Operating voltage	V_{op}	-	5	6	V	P_O = 150mW
Half intensity angle (Parallel)	$\Theta_{//}$	6	9	12	deg	P_O = 150mW
Half intensity angle (Perpendicular)	$\Theta_{\perp}$	15	19	23	deg	P_O = 150mW
Misalignment angle (Parallel)	$\Delta\Theta_{//}$	-3	0	3	deg	P_O = 150mW
Misalignment angle (Perpendicular)	$\Delta\Theta_{\perp}$	-3	0	3	deg	P_O = 150mW
Differential efficiency	ηd	1.2	1.7	-	mW/mA	$\frac{140\text{mW}}{\text{I}(150\text{mW}) - \text{I}(10\text{mW})}$

Note: $\Theta_{//}$ and $\Theta_{\perp}$ are defined as the angle within which the intensity is 50% of the peak value.

Mechanical Outline (unit: mm)

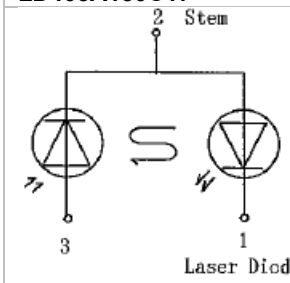
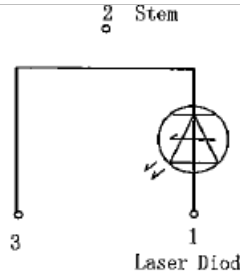
General tolerances: +/- 0.2mm



Notes:

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

Pin Configuration

LD405A150C17	**LD405D150C17**
	
	Note: Please do not connect the lead pin No.2 to the driving circuit.

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 specification by contacting us prior to purchase or use of the product.