LD450E80C17

450nm 80mW Laser Diode, TO-18 (5.6 mm) Package

Data Sheet

Features

- 450nm InAlGaN MQW Blue Laser Diode
- Optical output power: 80mW CW
- High temperature operation: 70°C
- TE oscillating transverse mode
- Package: ⌀5.6mm, TO-18 can

Absolute Maximum Ratings (T_C = 25 °C)

PARAMETER	SYMBOL	CONDITION	RATING	UNIT
Optical output power	P_O	CW	85	mW
Reverse voltage	V_{RL}	-	2	V
Operating temperature (Case temperature)	$T_{op\ (c)}$	-	-10 to +70	°C
Storage temperature	T_{stg}	-	-40 to +85	°C
Soldering temperature (1)	T_{sld}	-	350	°C

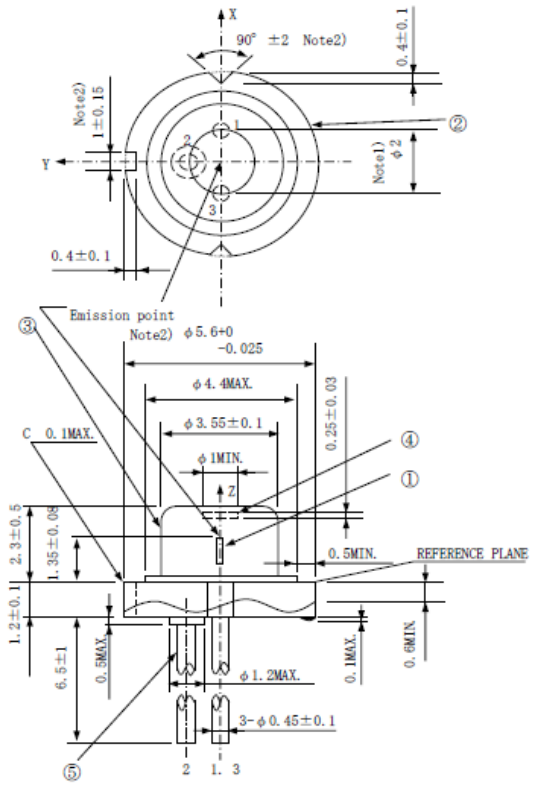
Note: 1. Soldering temperature means soldering iron tip temperature (The power 20W) while soldering. Soldering position is 1.6mm apart from bottom edge of the case (Immersion Time: ≤3s).

Electrical and Optical Characteristics (T_C = 25°C, CW unless otherwise stated)

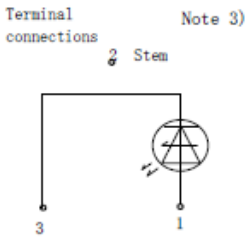
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Threshold current	I_{th}	-	22	40	mA	
Operating current	I_{op}	-	84	120	mA	P_O = 80mW
Operating voltage	V_{op}	-	5.1	6	V	P_O = 80mW
Wavelength	λ_p	440	450	460	nm	P_O = 80mW
Half Intensity Angle (Parallel)	$\Theta_{//}$	6	10	14	deg	P_O = 80mW
Half Intensity Angle (Perpendicular)	$\Theta_{\perp}$	19	24	29	deg	P_O = 80mW
Ripple	RI2	-	-	30	%	P_O = 80mW
Misalignment angle (Parallel)	$\Delta\ \Theta_{//}$	-3	0	+3	deg	P_O = 80mW
Misalignment angle (Perpendicular)	$\Delta\ \Theta_{\perp}$	-3	-0	+3	deg	P_O = 80mW
Differential Efficiency	ηd	0.8	1.3	-	mW/mA	$\frac{70\text{mW}}{\text{I}(80\text{mW}) - \text{I}(10\text{mW})}$
Kink	K-LI	-10	-	10	%	P1=17mW, P2=51W, P3=85mW

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.
3. 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.