



450nm 80mW Laser Diode, ø5.6mm (TO-18) Package LD450E80C17

Data Sheet

Features

- 450nm InAlGaIn MQW Blue Laser Diode
- Optical output power: 80mW CW
- High temperature operation: 70°C
- TE oscillating transverse mode
- Package: ø5.6mm, TO-18 can

Applications

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

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

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 ($T_c = 25^\circ\text{C}$, 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	$P_O = 80\text{mW}$
Operating voltage	V_{op}	-	5.1	6	V	$P_O = 80\text{mW}$
Wavelength	λ_p	440	450	460	nm	$P_O = 80\text{mW}$
Half Intensity Angle (Parallel)	$\Theta_{//}$	6	10	14	deg	$P_O = 80\text{mW}$
Half Intensity Angle (Perpendicular)	Θ_{\perp}	19	24	29	deg	$P_O = 80\text{mW}$
Ripple	RI2	-	-	30	%	$P_O = 80\text{mW}$
Misalignment angle (Parallel)	$\Delta \Theta_{//}$	-3	0	+3	deg	$P_O = 80\text{mW}$
Misalignment angle (Perpendicular)	$\Delta \Theta_{\perp}$	-3	-0	+3	deg	$P_O = 80\text{mW}$
Differential Efficiency	η_d	0.8	1.3	-	mW/mA	$\frac{70\text{mW}}{I(80\text{mW}) - I(10\text{mW})}$
Kink	K-LI	-10	-	10	%	$P1=17\text{mW}, P2=51\text{W}, P3=85\text{mW}$

