

# LNCQ10PS

## AlGaInP-Red Laser Diode

### ■ Features

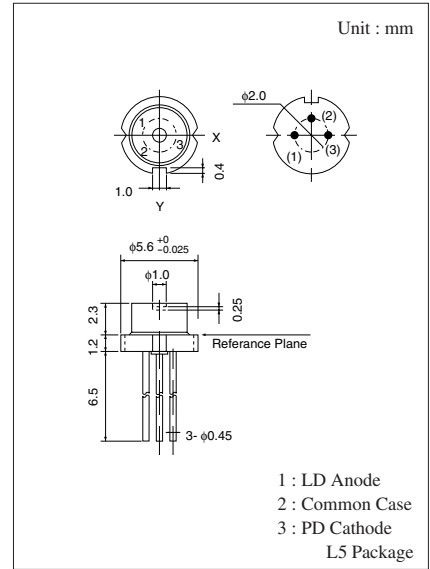
- Oscillation wavelength: 657 nm
- Radiant power: 50 mW (with 140 mW pulse)
- Small package:  $\phi 5.6$  mm

### ■ Applications

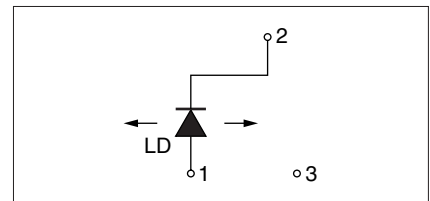
- DVD write/read

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit	
Radiant power	CW	$P_O$	50	mW
	Pulse	$P_O$	140	mW
Reverse voltage	Laser	$V_R$	1.5	V
	PIN	$V_{R(PIN)}$	30	V
Power dissipation	$P_{D(PIN)}$	60	mW	
Operating ambient temperature	$T_{opr}$	-10 to +70	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-40 to +80	$^\circ\text{C}$	



### Internal Connection



### ■ Electro-Optical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Threshold current	$I_{th}$	CW	20	35	50	mA
Operating current	$I_{OP}$	CW, $P_O = 50$ mW	65	95	110	mA
Operating voltage	$V_{OP}$		2.0	2.5	3.0	V
Oscillation wavelength	$\lambda_L$		653	657	660	nm
Differential efficiency	$\eta$	CW, $P_O = 45/I_{OP}$ (50 mW) - $I_{OP}$ (5 mW)	0.85	1.00	1.2	W/A
Beam radiation angle	Horizontal	$\theta_{//}$	7.0	9.0	11.0	$^\circ$
	Vertical	$\theta_{\perp}$	15	17	20	$^\circ$
Optical axis accuracy	X direction	$\theta_X$	-1.5	—	+1.5	$^\circ$
	Y direction	$\theta_Y$	-2.5	—	+2.5	$^\circ$
Astigmatism difference	As	CW, $P_O = 3$ mW	—	2	10	$\mu\text{m}$
Accuracy of emission point	$\Delta_X$		-60	—	+60	$\mu\text{m}$
	$\Delta_Y$		-60	—	+60	$\mu\text{m}$
	$\Delta_Z$		-60	—	+60	$\mu\text{m}$

# Caution for Safety

 **DANGER**

■ **This product contains Gallium Arsenide (GaAs).**

GaAs powder and vapor are hazardous to human health if inhaled or ingested. Do not burn, destroy, cut, cleave off, or chemically dissolve the product. Follow related laws and ordinances for disposal. The product should be excluded from general industrial waste or household garbage.

■ **Do not touch or look into the laser beam directly.**

The laser beam may cause injury to the eye or skin, or loss of eyesight.

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