

## 660nm 20mW 60°C Reliable Operation

## Features

1. Low operating current
2. High efficiency
3. High precision package
4. High power operation

## Applications

1. Laser pointers
2. Industrial laser markers/measuring instruments
3. High visibility applications

## Absolute maximum ratings

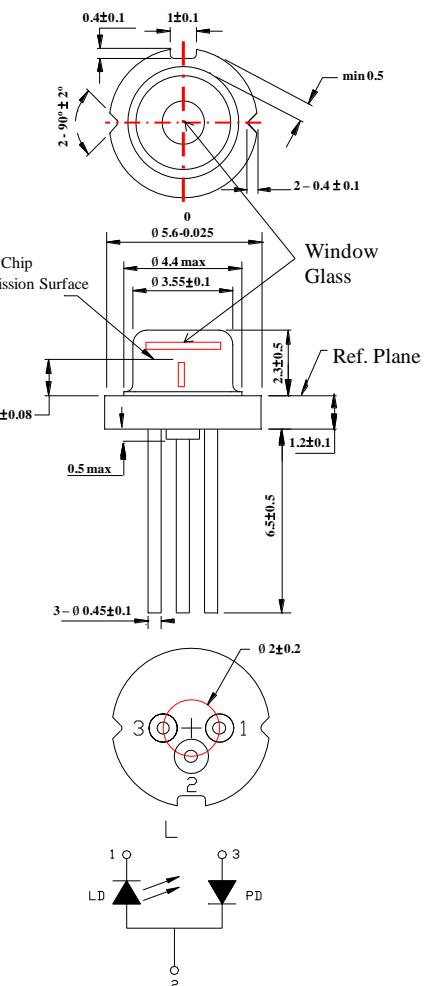
Parameter	Symbol	Condition	Rating	Unit
Light output power	P <sub>o</sub>	CW	22	mW
Reverse voltage (LD)	V <sub>RL</sub>	-	2	V
Reverse voltage (PD)	V <sub>RD</sub>	-	30	V
Forward current (PD)	I <sub>FD</sub>	-	10	mA
Case temperature	T <sub>c</sub>	-	-10~+60	°C
Storage temperature	T <sub>s</sub>	-	-40~+85	°C

Electrical and optical characteristics (T<sub>c</sub>=25 °C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Peak wavelength	λ	650	658	665	nm	P <sub>o</sub> =20 mW
Threshold current	I <sub>th</sub>	-	42	50	mA	
Operating current	I <sub>op</sub>	-	70	80	mA	P <sub>o</sub> =20 mW
Operating voltage	V <sub>op</sub>	2.0	2.3	2.6	V	P <sub>o</sub> =20 mW
Differential efficiency	η	0.5	0.8	1.2	mW/mA	P <sub>o</sub> =15-20mW
Monitor current	I <sub>m</sub>	0.05	0.15	0.5	mA	P <sub>o</sub> =20mW, V <sub>RD</sub> =5V
Parallel divergence angle	θ <sub>//</sub>	6	8	10	deg.	
Perpendicular divergence angle	θ <sub>⊥</sub>	14	18	22	deg.	
Parallel FFP deviation angle	Δ θ <sub>//</sub>	-2	0	+2	deg.	P <sub>o</sub> =20 mW
Perpendicular FFP deviation angle	Δ θ <sub>⊥</sub>	-2	0	+2	deg.	
Emission point accuracy	Δ xΔyΔz	-80	0	+80	um	

## • Precautions

- \* 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 the 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 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.



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