

**★ φ3.3mm Mini Package!**  
**7mW Reliable Operation**

## Features

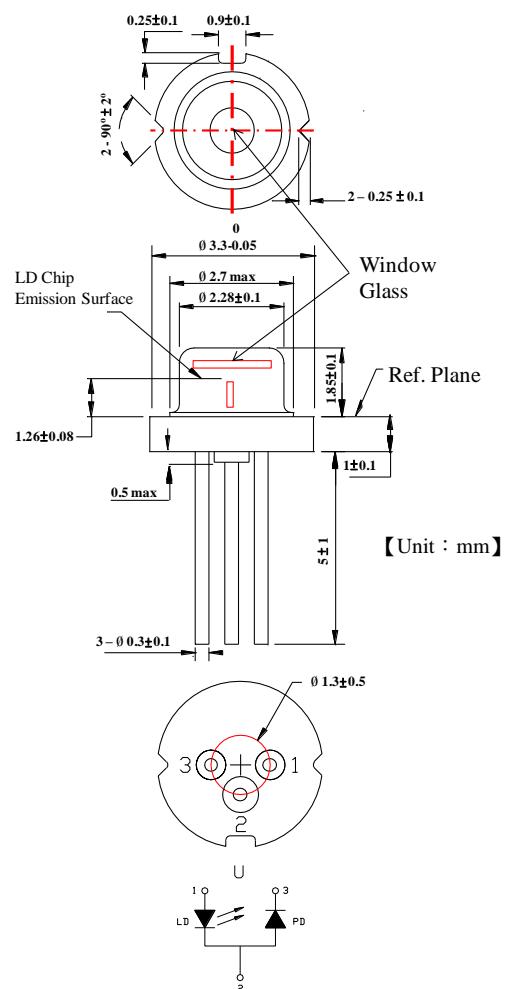
Smallest package  
Low operating current  
Higher power

## Applications

Super slim DVD/Combo OPU  
Mini size optical modules  
Laser sensor

## Absolute maximum ratings

Parameter	Symbol	Condition	Rating	Unit
Light output power	P <sub>o</sub>	CW	10	mW
Reverse voltage (LD)	V <sub>RL</sub>	—	2	V
Case temperature	T <sub>c</sub>	—	-10 ~ +70	°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	645	655	660	nm	P <sub>o</sub> =7mW
Threshold current	I <sub>th</sub>	-	20	25	mA	
Operating current	I <sub>op</sub>	-	25	35	mA	P <sub>o</sub> =7mW
Operating voltage	V <sub>op</sub>	-	2.2	2.5	V	P <sub>o</sub> =7mW
Differential efficiency	η	0.7	0.9	1.2	mW/mA	P <sub>o</sub> =3-5mW
Monitor current	I <sub>m</sub>	0.3	0.4	0.6	mA	P <sub>o</sub> =7mW
Parallel divergence angle	θ//	6	9	12	deg	P <sub>o</sub> =7mW
Perpendicular divergence angle	θ⊥	25	28	32	deg	
Parallel FFP deviation angle	Δθ//	-2	0	+2	deg	
Perpendicular FFP deviation angle	Δθ⊥	-2	0	+2	deg	
Emission point accuracy	ΔxΔyΔz	-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.

