

## 850nm 50mW 5.6φ TO-Type Laser Diode

### Features

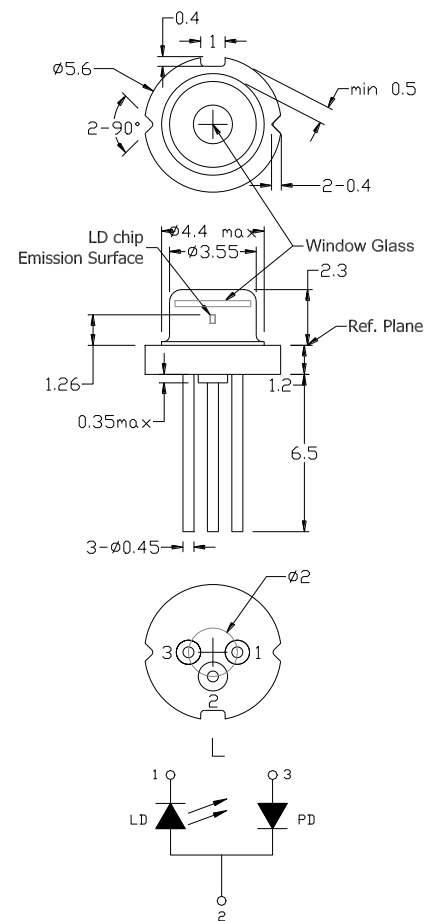
Low operation current  
Cost effective

### Applications

Bar-code scanner  
Laser printer  
Sensing

### Absolute maximum ratings

Parameter	Symbol	Condition	Rating	Unit
Light output power	$P_O$	CW	50	mW
Reverse voltage (LD)	$V_{RL}$	-	2	V
Reverse voltage (PD)	$V_{RD}$	-	30	V
Forward current (PD)	$I_{FD}$	-	10	mA
Case temperature	$T_C$	-	-10~+50	°C
Storage temperature	$T_S$	-	-40~+85	°C



### Electrical and optical characteristics ( $T_c=25^\circ\text{C}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Peak wavelength	$\lambda$	840	850	860	nm	$P_O=50\text{ mW}$
Threshold current	$I_{th}$	-	25	30	mA	
Operating current	$I_{op}$	-	95	105	mA	
Operating voltage	$V_{op}$	-	1.8	2.4	V	$P_O=10\text{-}50\text{ mW}$
Differential efficiency	$\eta$	0.7	0.8	1.0	mW/mA	
Monitor current	$I_m$	0.2	0.5	1.0	mA	$P_O=50\text{mW}$ , $V_{RD}=5\text{V}$
Parallel divergence angle	$\theta_{//}$	6	9	12	deg	$P_O=50\text{ mW}$
Perpendicular divergence angle	$\theta_{\perp}$	26	30	35	deg	
Parallel divergence angle	$\Delta\theta_{//}$	-3	-	+3	deg	
Perpendicular divergence angle	$\Delta\theta_{\perp}$	-3	-	+3	deg	
Emission point accuracy	$\Delta x \Delta y \Delta z$	-80	-	+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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