



Model No. LD850A50C15
850nm 50mW 50°C Laser Diode in TO-18 Ø5.6mm Package

FEATURES

- 850nm 50mW AlGaAs Infrared Laser Diode
- Low operation current
- Cost effective
- Package: TO-18 (dia. 5.6mm)

APPLICATIONS

- Sensing
- Laser printer
- Bar-code scanner

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 to +50	°C
STORAGE TEMPERATURE	T _S	-	-40 to +85	°C

ELECTRICAL AND OPTICAL CHARACTERISTICS (T_C = 25 °C)

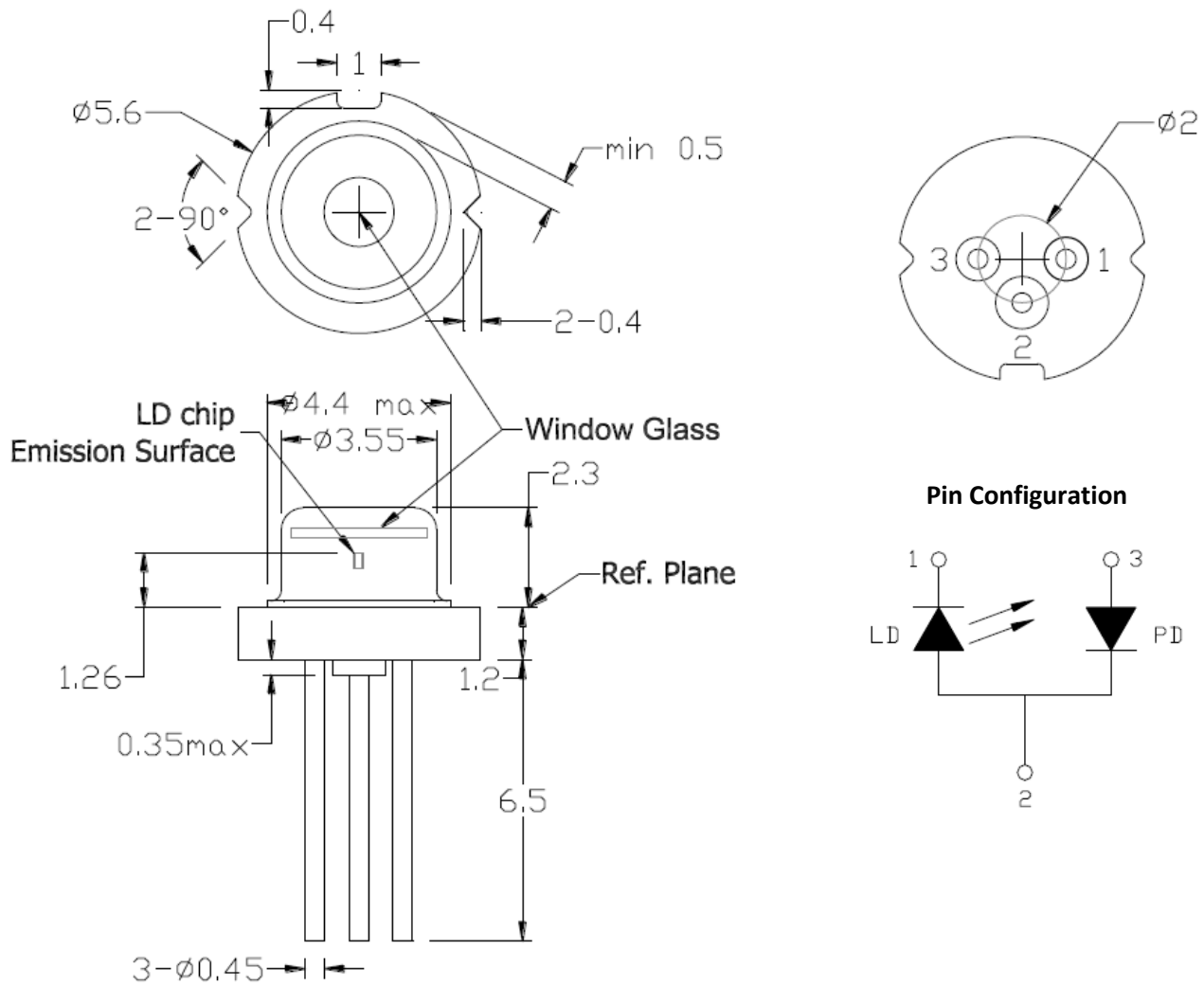
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
PEAK WAVELENGTH	λ	840	850	860	nm	
THRESHOLD CURRENT	I _{th}	-	25	30	mA	P _O = 50mW
OPERATING CURRENT	I _{op}	-	95	105	mA	
OPERATING VOLTAGE	V _{op}	-	1.8	2.4	V	
DIFFERENTIAL EFFICIENCY	η	0.7	0.8	1.0	mW/mA	P _O = 10-50mW
MONITOR CURRENT	I _m	0.2	0.5	1.0	mA	P _O = 50mW, V _{RD} = 5V
PARALLEL DIVERGENCE ANGLE	θ _{//}	6	9	12	deg	
PERPENDICULAR DIVERGENCE ANGLE	θ _⊥	26	30	35	deg	
PARALLEL FFP DEVIATION ANGLE	Δθ _{//}	-3	-	+3	deg	P _O = 50mW
PERPENDICULAR FFP DEVIATION ANGLE	Δθ _⊥	-3	-	+3	deg	
EMISSION POINT ACCURACY	Δx Δy Δz	-80	-	+80	um	

Note: The above specifications are subject to change without notice.





MECHANICAL OUTLINE (unit: mm)



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 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 the 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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