

Model No. LD780A60C18
780nm 60mW 80°C Laser Diode in TO-18 Ø5.6mm Package

FEATURES

- 780nm 60mW CW AlGaAs Laser Diode
- Package: TO-18 (dia. 5.6mm)
- Built-in photodiode for monitoring laser diode

APPLICATIONS

- Industrial optical module
- Sensor

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	CONDITION	RATING	UNIT
OPTICAL OUTPUT POWER	P_O	CW	80	mW
REVERSE VOLTAGE (LD)	V_{RL}	-	2	V
REVERSE VOLTAGE (PD)	V_{RD}	-	30	V
OPERATING TEMPERATURE	T_{opr}	-	-10 to +80	°C
STORAGE TEMPERATURE	T_{stg}	-	-40 to +85	°C

ELECTRICAL AND OPTICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
LASING WAVELENGTH	λ_p	770	780	790	nm	$P_O = 60\text{mW}$
THRESHOLD CURRENT	I_{th}	-	30	50	mA	-
OPERATING CURRENT	I_{op}	-	90	120	mA	$P_O = 60\text{mW}$
DIFFERENTIAL EFFICIENCY	η	0.7	1.0	1.3	mW/mA	$P_O = 30\text{--}60\text{mW}$
OPERATING VOLTAGE	V_{op}	-	2.2	2.5	V	$P_O = 60\text{mW}$
MONITOR CURRENT	I_m	0.1	0.3	0.8	mA	$P_O = 60\text{mW}$
PARALLEL DIVERGENCE ANGLE	$\Theta_{//}$	8	10	12	deg	$P_O = 60\text{mW}$
PERPENDICULAR DIVERGENCE ANGLE	$\Theta_{\perp}$	16	18	20	deg	$P_O = 60\text{mW}$
PARALLEL FFP DEVIATION ANGLE	$\Delta \Theta_{//}$	-2	0	+2	deg	
PERPENDICULAR FFP DEVIATION ANGLE	$\Delta \Theta_{\perp}$	-3	0	+3	deg	
EMISSION POINT ACCURACY	$\Delta x \Delta y \Delta z$	-60	0	+60	um	

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



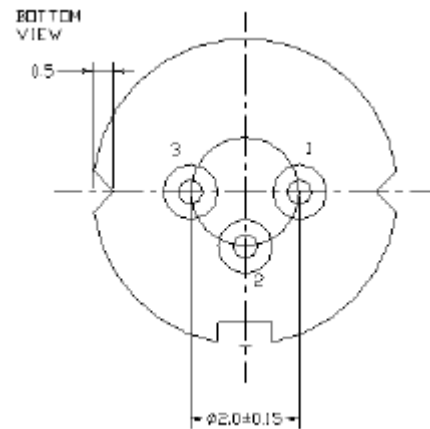
Technical drawing of a lens assembly showing top and side views with dimensions.

Top View:

- Overall diameter: $\phi 5.63 \pm 0.1$
- Inner diameter: $\phi 4.2 \pm 0.1$
- Inner diameter: $\phi 3.55 \pm 0.05$
- Inner diameter: $\phi 1.6 \pm 0.1$
- Top flange diameter: 1.0 ± 0.1
- Top flange thickness: 0.4 ± 0.1
- Angle: $90^\circ \pm 2^\circ$

Side View:

- Overall height: 6.5 ± 0.5
- Top flange thickness: 0.5 ± 0.1
- Inner diameter: $\phi 1.2 \text{ MAX}$
- Inner diameter: 0.5 MAX
- Inner diameter: 1.27 ± 0.06
- Inner diameter: 2.3 ± 0.1
- Inner diameter: 0.25 ± 0.03 Gloss
- Inner diameter: 1.0 MAX Submount
- Inner diameter: $3 - \phi 0.45 \pm 0.05$
- Inner diameter: 2.0 ± 0.15



- 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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