

## 685nm 10mW 60°C Laser Diode in TO-18 $\phi$ 5.6mm Package

Part No. LD685A10C16

### FEATURES

- 685nm 10mW laser diode
- Package: TO-18 (5.6mm)
- Single transverse/TM mode

### APPLICATIONS

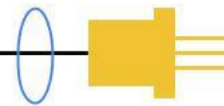
- Laser printer

### ABSOLUTE MAXIMUM RATINGS

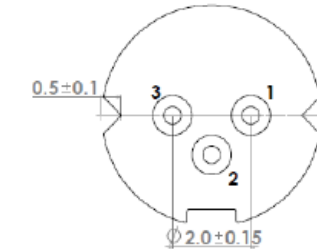
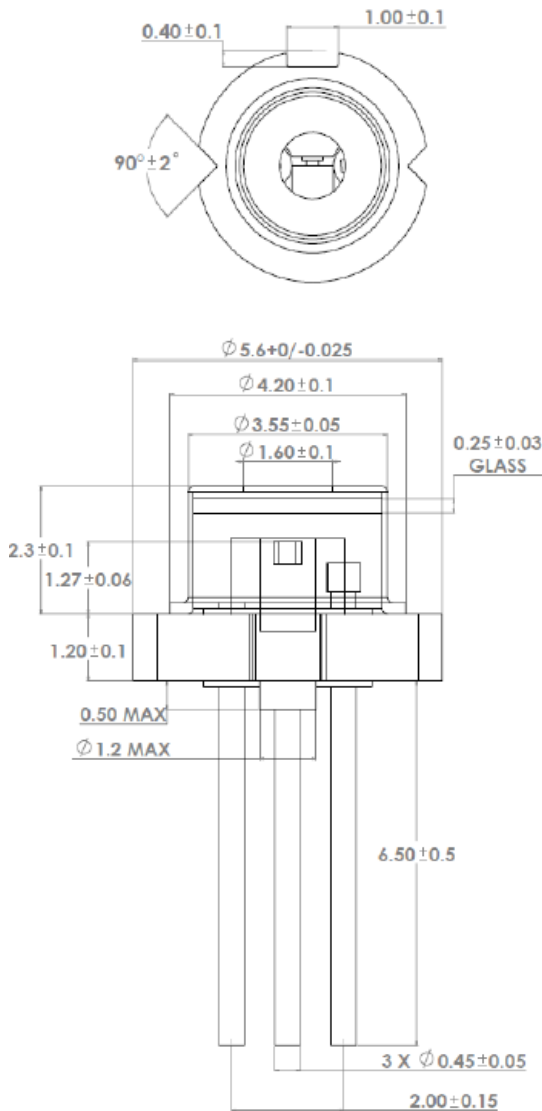
Parameter	Symbol	Rating	Unit
Optical output power	$P_O$	10	mW
Reverse voltage (LD)	$V_{RL}$	2	V
Reverse voltage (PD)	$V_{RD}$	30	V
Operating temperature	$T_{opr}$	-10 to +60	°C
Storage temperature	$T_{stg}$	-40 to +85	°C

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

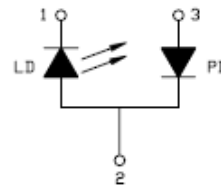
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Lasing wavelength	$\lambda$	670	680	690	nm	$P_O = 10\text{mW}$
Threshold current	$I_{th}$	10	15	20	mA	-
Operating current	$I_{op}$	20	25	40	mA	$P_O = 10\text{mW}$
Operating voltage	$V_{op}$	1.8	2.3	2.6	V	$P_O = 10\text{mW}$
Differential efficiency	$\eta$	0.5	0.85	1.2	mW/mA	$P_O = 10\text{mW}$
Monitor current	$I_m$	0.7	1.0	1.6	mA	$P_O = 10\text{mW}$
Parallel divergence angle	$\theta_{//}$	7	10	13	deg	$P_O = 10\text{mW}$
Perpendicular divergence angle	$\theta_{\perp}$	14	18	22	deg	$P_O = 10\text{mW}$
Parallel FFP deviation angle	$\Delta \theta_{//}$	-2	-	+2	deg	$P_O = 10\text{mW}$
Perpendicular FFP deviation angle	$\Delta \theta_{\perp}$	-3	-	+3	deg	$P_O = 10\text{mW}$
Optical distance	$\Delta x \Delta y \Delta z$	-60	-	+60	um	



## MECHANICAL OUTLINE (unit: mm)



## Pin Configuration



\*Other pin configurations may be available upon request.

## ADDITIONAL NOTES

- 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.