

# 100mW Blue Laser Diode in TO18 Package

**Model: SLB03AF5M2-450M001**

## Features:

- (1) Output Power:  $\geq 100\text{mw}$
- (2) Lower Threshold Current:  $\leq 50\text{mA}$
- (3) Center Wavelength:  $450 \pm 10\text{nm}$
- (4) Standard TO18 Package( $\phi 5.6\text{mm}$ )



## Applications:

- (1) Laser Projection
- (2) Laser shows

## Product Specifications:

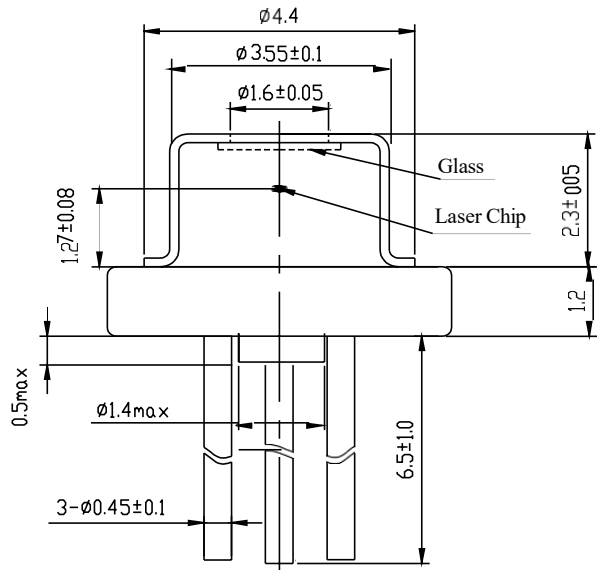
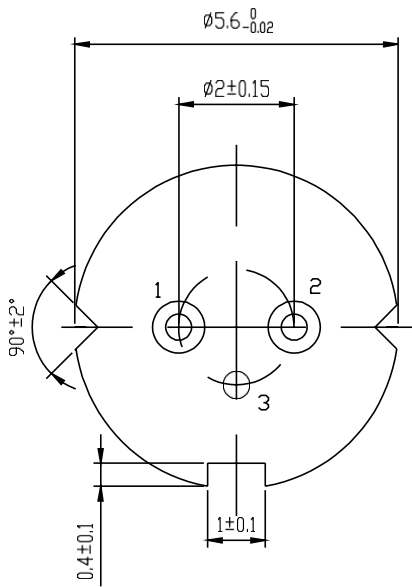
Absolute Maximum Ratings:

Parameter	Symbol	Ratings	Unit
Storage Temperature	$T_{\text{stg}}$	-40~+85	$^{\circ}\text{C}$
Case Temperature	$T_{\text{c}}$	-20~+60	$^{\circ}\text{C}$
Lead Soldering Temperature	$S_{\text{temp}}$	260	$^{\circ}\text{C}$
Lead Soldering Time	$S_{\text{time}}$	10	sec

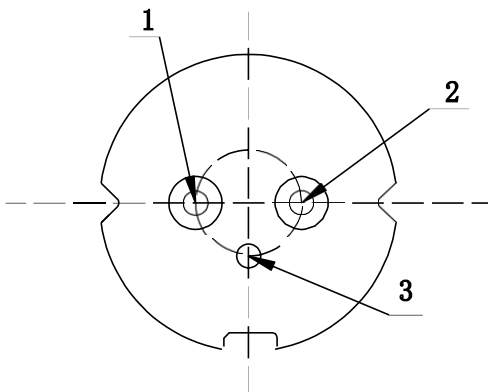
Electro-Optical Characteristics( $T_{\text{c}}=+25^{\circ}\text{C}$ ):

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit	
Center Wavelength	$\lambda_{\text{p}}$	$P_{\text{o}}=100\text{mW}$	440	450	460	nm	
FWHM	$\Delta\lambda$	$P_{\text{o}}=100\text{mW}$	-	1.0	-	nm	
Operating Current	$I_{\text{op}}$	$P_{\text{o}}=100\text{mW}$	100	110	130	mA	
Threshold Current	$I_{\text{th}}$	$CW$	20	30	50	mA	
Operating Voltage	$V_{\text{op}}$	$P_{\text{o}}=100\text{mW}$	4.5	5.0	6	V	
Slope Efficiency	$\eta$	$CW$	1.2	1.3	1.4	mW/mA	
Beam Divergence	Parallel	$\theta_{//}$	$P_{\text{o}}=100\text{mW}$	4.0	5.0	6.5	$^{\circ}$
	Perpendicular	$\theta_{\perp}$	$P_{\text{o}}=100\text{mW}$	18	23	25	$^{\circ}$

# Outline Drawings (in mm):



## PIN Assignment (Bottom View) :



Pin Assignment			
Pin	1	2	3
Description	LD Cathode	LD Anode	Case

## **Precaution:**

(1) The laser diodes should be handled in the same manner as ordinary semiconductor device to prevent the electro-static damages. For safety keeping and carrying, the modules should be packaged with ESD proof material. For assembling, the workbench, the soldering iron and the human body should be grounded.

(2) Please pay special attention to the atmosphere condition because the dew on the module may cause some damages.

(3) Under such a strong vibration environment as in automobile, the performance and reliability are not guaranteed.

(4) A voltage stabilizer should be taken into consideration for the power supply, and shock voltage should be avoided during the process of switching on and off of the supply in order to prevent the device from damaging.

(5) Pay attention to the dust polluting. The device may be damaged when operating in atmosphere because the dust may be absorbed onto the region of lighting under the action of electric field.

***Warning*** Direct exposure of one's eyes to the laser beam or long time exposure of one's skin to the beam must be avoided.