

**Φ4mm 650nm Laser Module**

**$P_o < 1mW$**

**Features**

1. APC (auto power control) IC inside
2. Low current consumption of the APC circuit
3. Much smaller LD module
4. Surge current protection
5. High quality lens for output beam



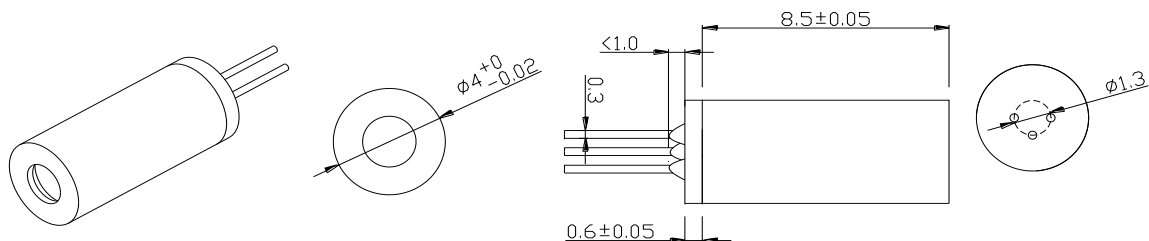
**Absolute maximum ratings**

Item	Symbol	Rating	Unit
Power supply voltage	$V_{cc}$	3.3	V
Laser Module optical output power	$P_o$	<1	mW
Operation temperature	$T_{opr}$	0~40	°C
Storage temperature	$T_{stg}$	0~60	°C

**Electrical and optical characteristics ( $T_c=25^\circ C$ )**

Item	Symbol	Min.	Typ.	Max	Unit	Condition
Wavelength	$\lambda$	-	655	-	nm	$P_o = 1mW$
Operation current	$I_{op}$	-	-	35	mA	$P_o = 1mW V_{cc} = 3V$
Operation voltage	$V_{op}$	2.5	-	3.3	Volt	
Laser Beam spot size at 10m		<20mm				
Divergence angle		2 mrad				
Mean time to failure (MTTF) 25°C		>10000 hrs				

**Outline dimensions (Units: mm)**

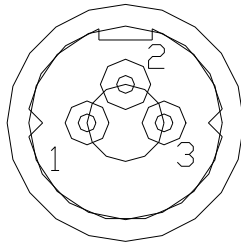


Aperture Size : 1.8mm

**Laser Safety Precautions**

1. Do not look into the laser beam directly by eyes. The laser beam may cause severe damage to human eyes.
2. Optical Lens is made of plastic or glass. Do not contaminate lens by soiling, oil or chemical.

**PIN Assignment:**

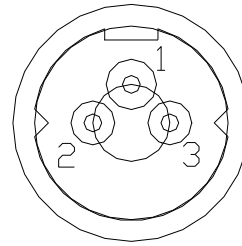


**A type** : Heat sink stand (-)

**Pin 1** : Vcc

**Pin 2** : GND

**Pin 3** : NC ( No external connection )

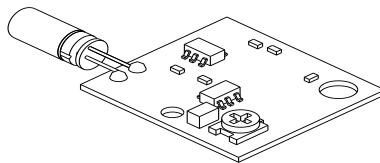
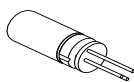
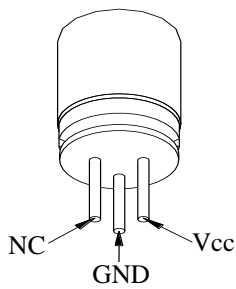


**B type** :Heat sink stand (+)

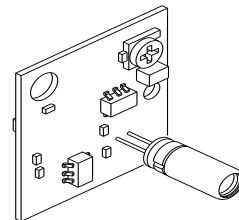
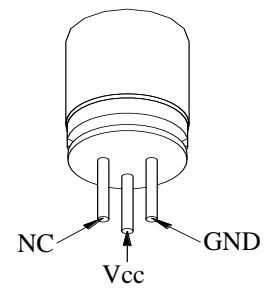
**Instruction manual**

**1. DC Power connection mode 1**

**A type** : Heat sink stand (-)



**B type** :Heat sink stand (+)



**2. DC Power connection mode 2**

