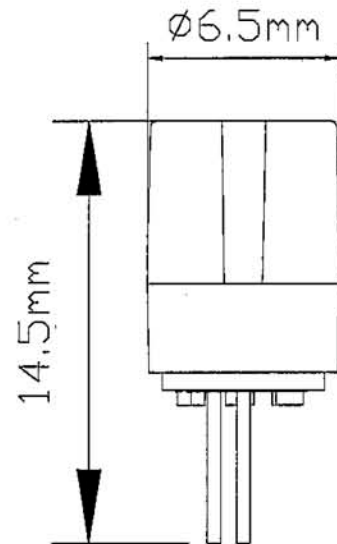
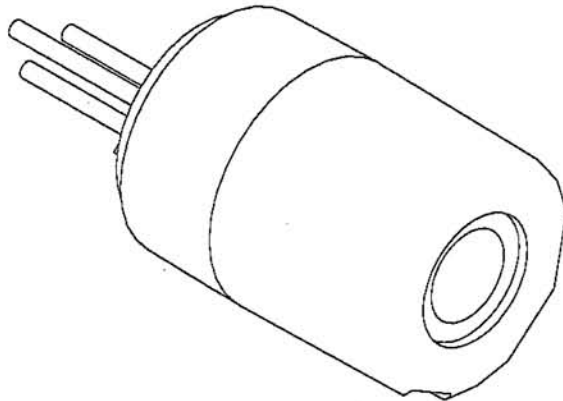
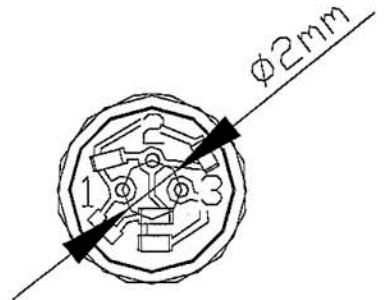


650nm Laser Module**Features**

1. APC (auto power control) IC inside
2. High quality PC lens
3. Low current consumption of the APC circuit
4. Perfect laser light-spot between 0~40 °C

Applications

1. Laser pointers

**Absolute maximum ratings**

Item	Symbol	Rating	Unit
Power supply voltage	V_{cc}	3	V
Laser Module optical output power	P_o	<1mW	mW
Operation temperature	T_{opr}	0~40	°C
Storage temperature	T_{stg}	0~60	°C

PIN Assignment:

1. V_{cc}
2. GND
3. NC (no external connection)

Electrical and optical characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Min.	Typ.	Max	Unit	Condition
Wavelength	λ	650	655	660	nm	$P_o < 1\text{mW}$
Output power	mW C2	0.4	-	0.9	mW	$V_{cc}=3\text{V}$
Operation current	I_{op}	-	15	20	mA	$P_o=0.9\text{mW}$ $V_{cc}=3\text{V}$
Operation voltage	V_{op}	2.5	-	3	Volt	
Mean time to failure (MTTF) 1mW 25°C	>10000 hrs					

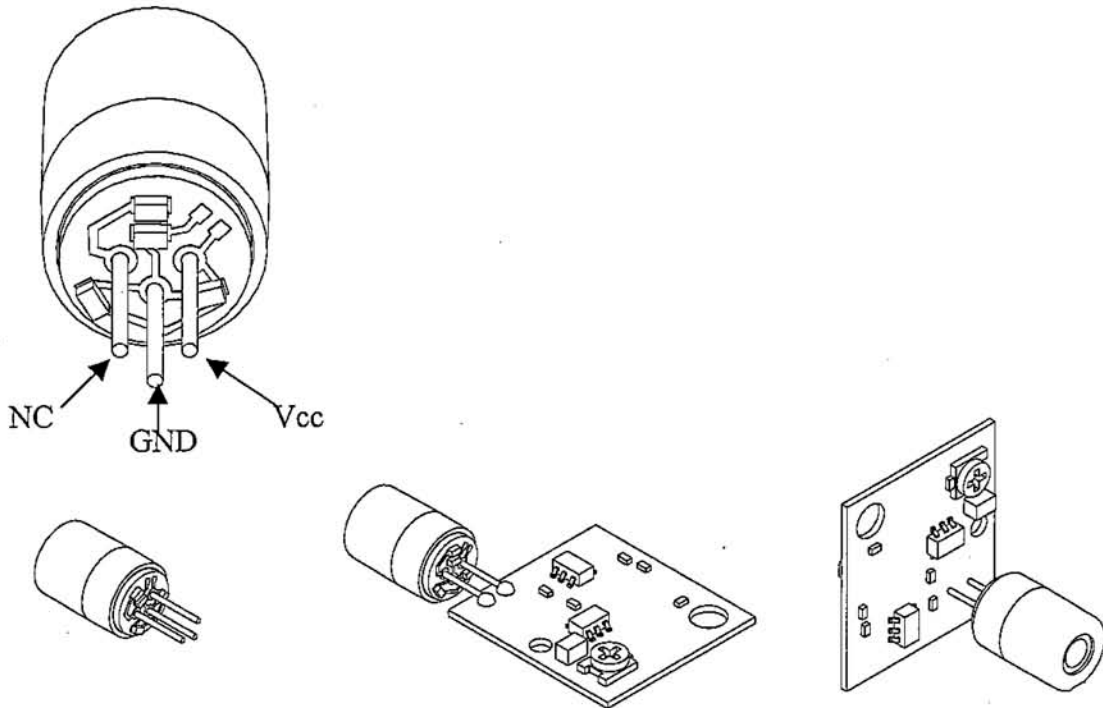

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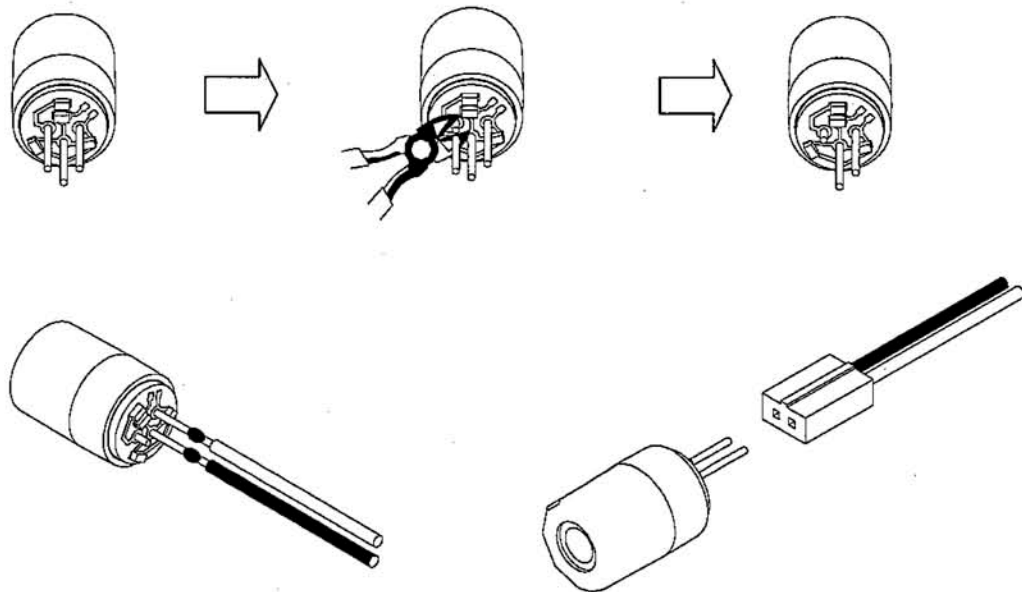


Instruction manual

DC Power connection mode 1



DC Power connection mode 2



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.



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