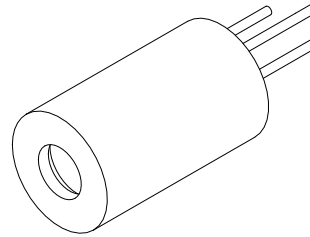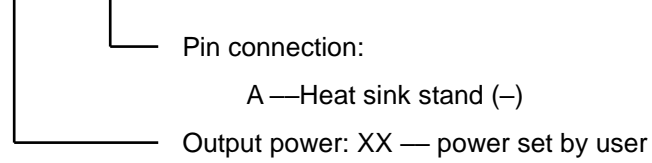## *Φ6.2mm 650nm Laser Module*

Features

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

Part No. Indications:

APC D – 650 – 10– XX – A

Pin connection:

A ——Heat sink stand (–)

Output power: XX — power set by user

Absolute maximum ratings

Item	Symbol	Rating	Unit
Power supply voltage	V_{cc}	3.3	V
Laser Module optical output power	P_o	<5	mW
Operation temperature	T_{opr}	0~50	^{o}C
Storage temperature	T_{stg}	0~75	^{o}C

Electrical and optical characteristics (T_c=25 °C)

| Item	Symbol	Min.	Typ.	Max	Unit	Condition
Wavelength	λ	645	655	660	nm	P_o<4mW
Output power	P_{out}	-	-	4	mW	Vcc=3V
Operation current	I_{op}	-	-	45	mA	P_o=3mW V_{cc}=3V
Operation voltage	V_{op}	3	-	3.3	Volt	
Laser Beam spot size at 10m	<20mm					
Divergence angle	2 mrad					

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 glass . Do not contaminate lens by soiling, oil or chemical.

www.arimalasers.com

Arima LASERS

Outline dimensions (Units: mm)

14±0.1

ø6.2

ø2
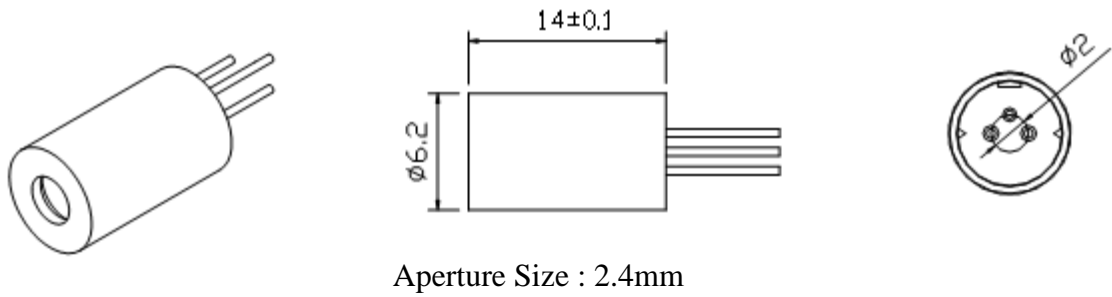
Aperture Size : 2.4mm

PIN Assignment:

2

1 3
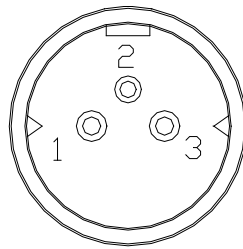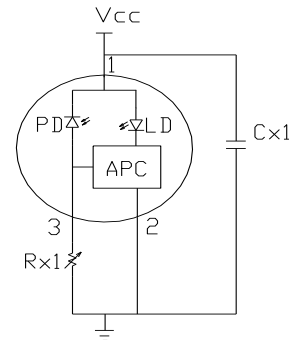
A type : Heat sink stand (–)

Pin 1 : Vcc

Pin 2 : GND

Pin 3 : (1) PD

## Laser power Adjustment Procedure

1. Connect 1 uF capacitor (Cx1) between Pin1 and Pin2.

2. Connect 20~50K ohm variable resistor (Rx1) between Pin2 and Pin3.

3. Set Vcc to the designed value.

4. Adjust Rx1 to obtain the desired output power.

5. Laser Safety Precautions

   (1) Do not increase Vcc value when the laser module is working near the maximum power . That is to protect laser from overdriving condition and make sure power is under 4 mW.

   (2) Do not operate the device above the maximum rating condition, even momentarily.   It may cause unexpected permanent damage to the device.

Vcc

1

PD   LD

APC

C×1

3   2

R×1

Arima
L A S E R S

Laser power stability

P1 : 4mW
P2 : < 5mW
Pn : <6mW
ΔP : < 0.5mW
T1 : < 0.1us
f2=(1/T2) : 3MHz
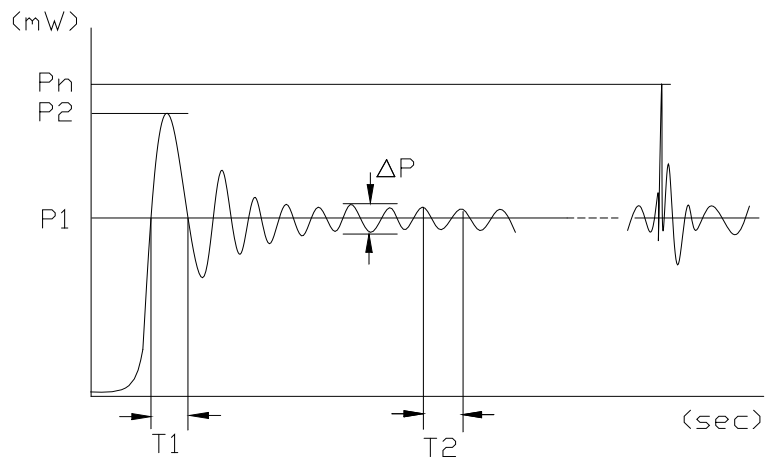
NOTE:
P1 : Mean power
P2 : Max power from turning on power
Pn : Max power from Vcc noise
ΔP : Power Amplitude of vibration
T1 : Time between trigger and convergence
f2=(1/T2) : Frequency of output power

Arima
L A S E R S