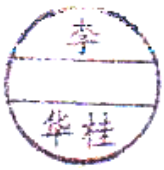
APPROVAL SHEET

(承认书)

ITEM: ADL-63301TM

版本 (Verison) : 6-2D-LD63-126 V0.0
日期 (Date) : 2018-09-06

Prepared By (制订)	Confirmed By (确认)	Approved By (承认)
		
Date (日期)	Date (日期)	Date (日期)

RED Laser Diode (with APC circuit inside)

ADL-63301TM

6-2D-LD63-126 V0.0

635nm/30mW 50℃ APC Laser Diode

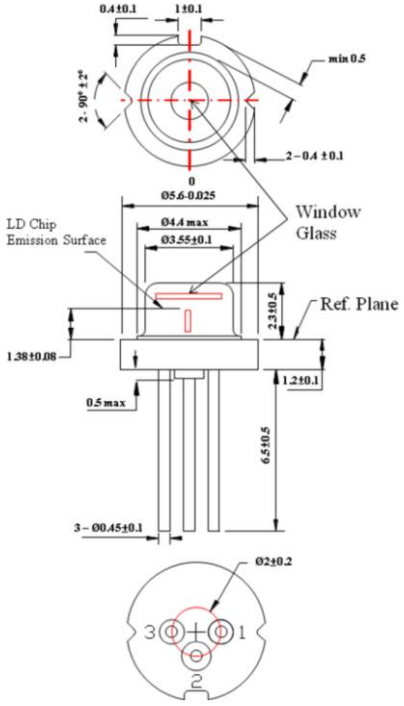
◆ Features

- 635m 30mW 50℃ high reliable operation
- Saving space and cost of laser module
- Voltage driven LD, easy to use
- Highly stable laser output power
- Strong reverse bias protection
- High ESD sustainability voltage
- High speed short protection
- Power source reverse protection

◆ Applications

- Industry : laser level, illumination, meter, scanner, detector
- Consumer : point light, sweeper, game lighting
- Health : special wavelength light source

Dimension



Pin Assignment

1. Vcc
2. GND
3. PWM

unit : mm

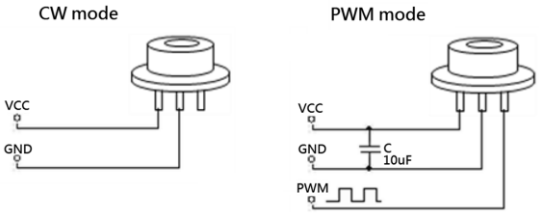
◆ Absolute maximum ratings

(TC=25℃)

Parameter	Symbol	Rating	Unit
Light output power	P_0	30	mW
Power supply voltage	Vcc	2.7 ~ 6.0*	V
Case Temperature	T_C	-10~+50	℃
Storage temperature	T_S	-40~+85	℃

*Effective heat sink is recommended on 6V case due to extra heat.

Reference circuit



RED Laser Diode (with APC circuit inside)

ADL-63301TM

6-2D-LD63-126 V0.0

635nm/30mW 50℃ APC Laser Diode

◆ Electrical and optical characteristics

Parameter	Symbol	Min	Typ.	Max.	Unit	Condition (CW)
Peak wavelength	λ	630	640	645	nm	Po = 30mW
Operating current	**Iop**	-	100	130	mA	Po=30mW,Vcc=3.0V
Parallel divergence angle	**θ** ∥	5	8	12	deg	Po = 30mW
Perpendicular divergence angle	**θ** ⊥	25	33	38	deg	
Parallel FFP deviation angle	△**θ** ∥	-3	0	+3	deg	
Perpendicular FFP deviation angle	△**θ** ⊥	-3	0	+3	deg	
Emission Point Accuracy	△x△y△z	-80	0	+80	um	
Power-Temp Stability (25 ~ 50℃)	$\triangle P_{OT}$	-10	-	10	%	Po= 30mW,Vcc=3.0V
Power-Temp Stability (-10 ~ 25℃)	△POT	-15	-	10	%	Po= 30mW,Vcc=3.0V

●Precautions

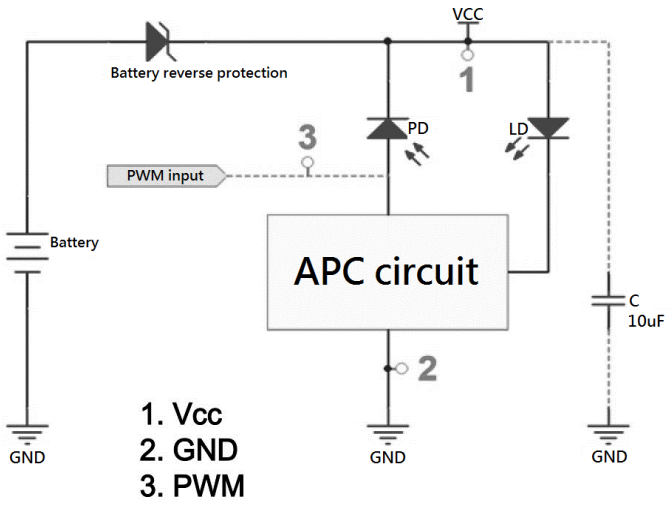
* To Protect laser from overdriving condition, setting VR to maximum value before you turn on Vcc can minimized the laser output power.
* Do no operate the device above the maximum rating condition, every momentarily. It may cause unexpected permanent damage to the device.
* Semiconductor laser device is very sensitive to electrostatic discharge. High voltage spike current may change the characteristics of the device, or malfunction at any time during its service period. Therefore, proper measures for preventing electrostatic discharge are strongly recommend.
* To obtain a stable characteristic and good reliability, the effective heat sink is necessary. So it is recommended that always apply proper heat sink before the device is Operating
* Do not look into the laser beam directly by bare eyes. The laser beam may cause severe damage to human eyes.

**For reference only. Contents above are subject to change without notice.*

◆ Block Diagram

1. Traditional LD needs to connect an external APC circuit board for the constant power operation.
2. ADL-63301TM consistant an APC IC inside the TO-5.6mm package, APC circuit board can keep the same optical power.
3. Add capacitance is recommend for stabilizing the PWM control.
4. Battery reverse protection is recommended for protecting the APC circuit.

Pin connection



RED Laser Diode (with APC circuit inside)

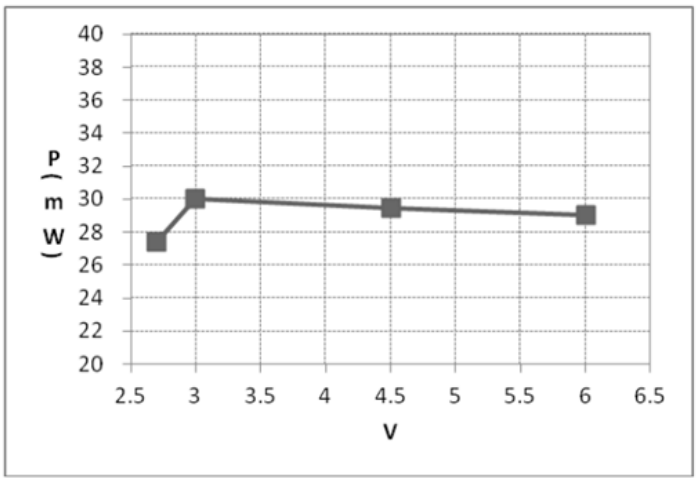
ADL-63301TM

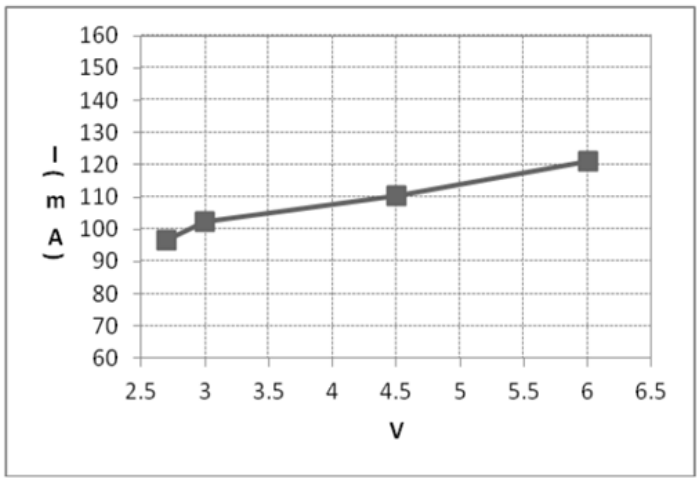
6-2D-LD63-126 V0.0

635nm/30mW 50℃ APC Laser Diode

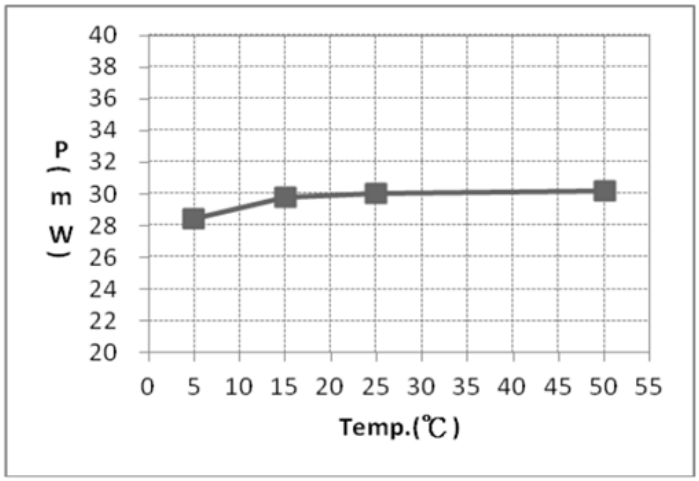
◆ Product Characteristic Curve

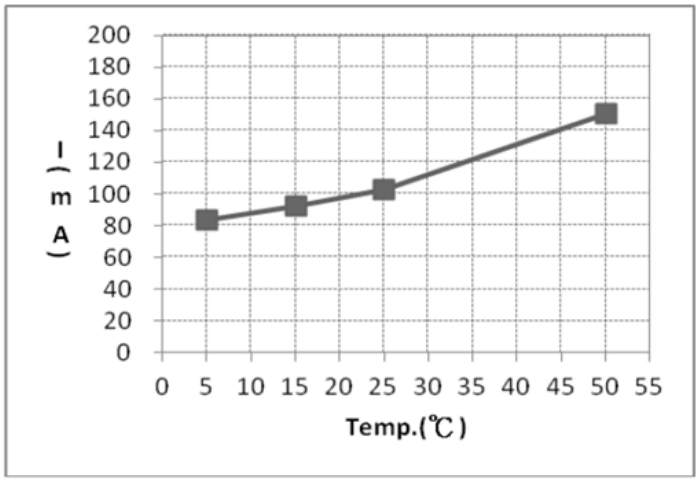
1. Vcc vs. Po(mW) & Icc(mA)



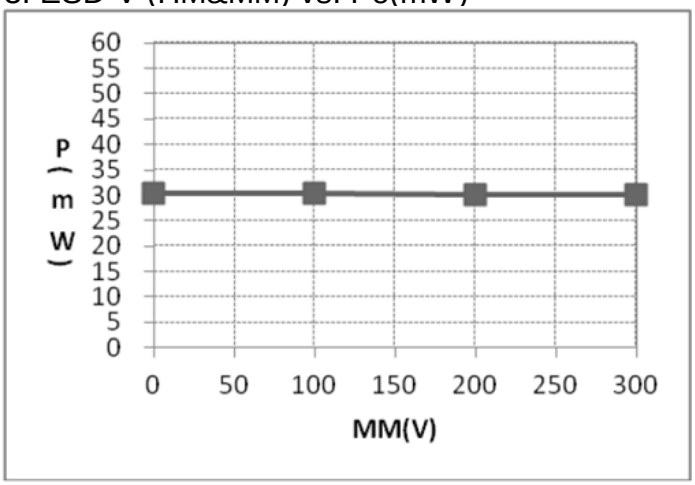


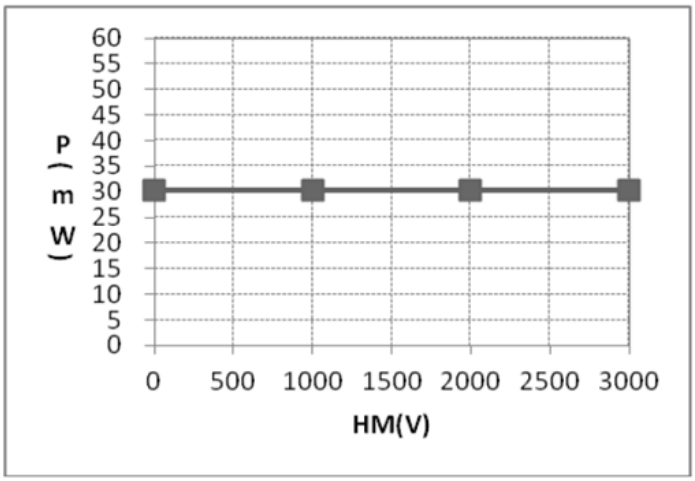
2. Temp. vs. Po(mW) & Icc(mA)





3. ESD-V (HM&MM) vs. Po(mW)





RED Laser Diode (with APC circuit inside)

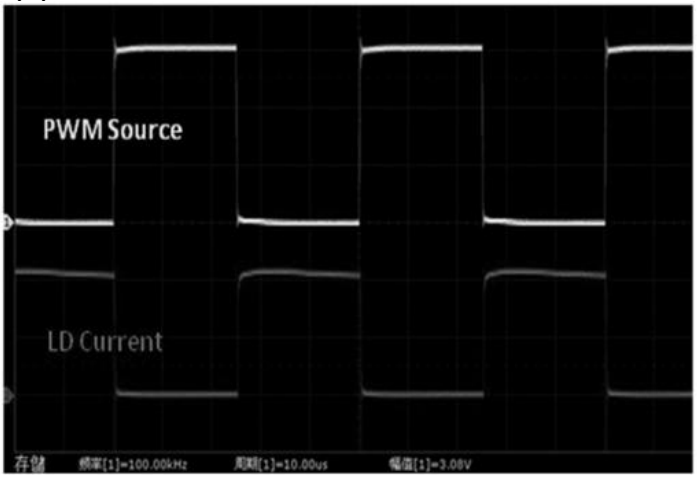
ADL-63301TM

6-2D-LD63-126 V0.0

635nm/30mW 50℃ APC Laser Diode

4. PWM-Freq(100KHz, 2000KHz) vs. Icc waveform

(1) 100KHz



(2) 2000KHz (2MHz)