

Infrared Laser Diode

ADL-94V01IY-V1

940nm 500mW VCSEL

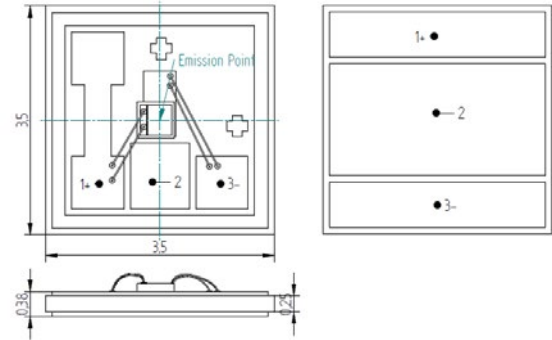
XX-XX-XXXX-XXX Rev.00

Features

High wavelength stability at different temperature
High power conversion efficiency
Low cost

Applications

Moving sensor/Gesture
Photoelectric sensors
3D sensing
ToF applications



Absolute Maximum Ratings

Parameter	Symbol	Condition	Rating	Unit
Light Output Power	P_O	Pulse	520	mW
Reverse Voltage(LD)	V_{RL}	-	2	V
Case Temperature	TC	-	-10~60	°C
Storage Temperature	TS	-	-40~85	°C



Electrical and Optical Characteristics(Tc=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Peak Wavelength	λ		940		nm	Po=500mW
Threshold Current	I_{th}		83		mA	
Operating Current	I_{op}		640		mA	Po=500mW
Operating Voltage	V_{op}		2.2		V	Po=500mW
Differential Efficiency	η		0.9		mW/mA	Po=500mW
Wavelength Shift	$\Delta\lambda/\Delta T$		0.07		nm/°C	Po=500mW
Parallel Divergence Angle	$\theta_{//}$		25		deg.	Po=500mW
Perpendicular Divergence Angle	θ_{\perp}		25		deg.	

- * The characteristics was tested under pulsed condition. Duty cycle=10%, pulsed width = 0.1ms.
- * Divergence angle measurement was based on $1/e^2$

Precautions

- * Do not operate the device above maximum ratings even short period of time. Doing so may cause unexpected and permanent damage to the device.
- * Take precautions to avoid electrostatic discharge and/or momentary power spikes. A change in the characteristics of the laser or premature failure may result.
- * Proper heat sinking of the device assures stability and lifetime. Always ensure that maximum operating temperatures are not exceeded.
- * Observing visible or invisible laser beams with the human eye directly, or indirectly, can cause permanent damage. Use a camera to observe the laser.
- * No laser device should be used in any application or situation where life or property is at risk in event of device failure.
- * Specifications are subject to change without notice. Ensure that you have the latest specification by contacting us prior to purchase or use of the product.
- * VCSEL Chip Tj should <125°C during operation.

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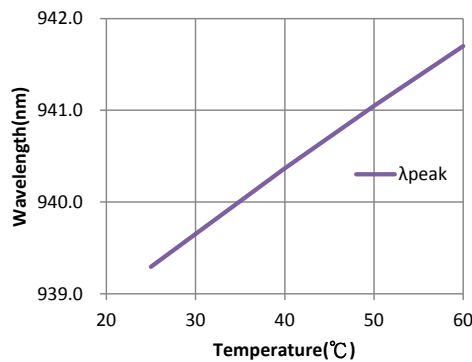
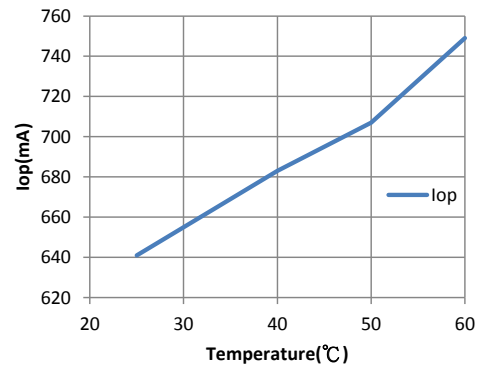
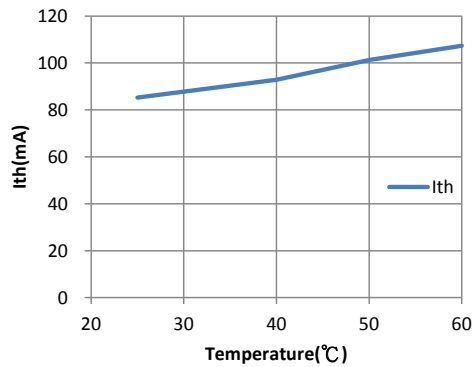
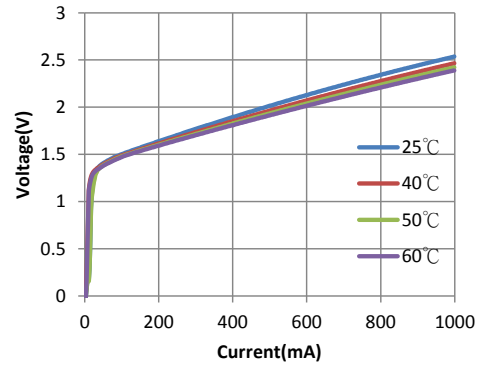
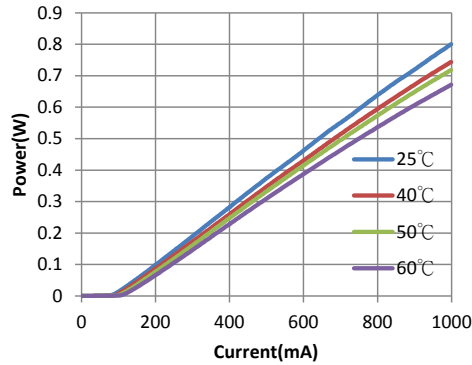
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TENTATIVE



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07/19 / V01 / IF / arima/940nm/adl94v01iyv1