SONY

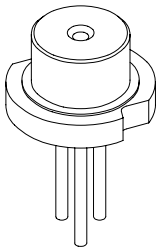
SLD1138VL

650nm Multimode Red Laser Diode

Description

The SLD1138VL is a longitudinal multimode red laser diode designed for DVD systems.

M-274



Features

- Low operation current (50mA typ.)
- Small package (ϕ5.6mm)
- Longitudinal multimode

Applications

DVD

Structure

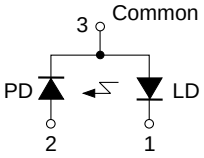
- AlGaInP MQW laser diode
- PIN photodiode to monitor laser beam output

Recommended Optical Power Output 4mW

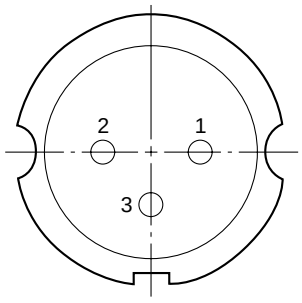
Absolute Maximum Ratings (Tc = 25°C)

• Optical power output	Pomax		5	mW
• Reverse voltage	V_R	LD	2	V
		PD	15	V
• Operating temperature	Topr		–10 to +70	°C
• Storage temperature	Tstg		–40 to +85	°C

Connection Diagram



Pin Configuration



1. LD anode
2. PD anode
3. Common

Bottom View

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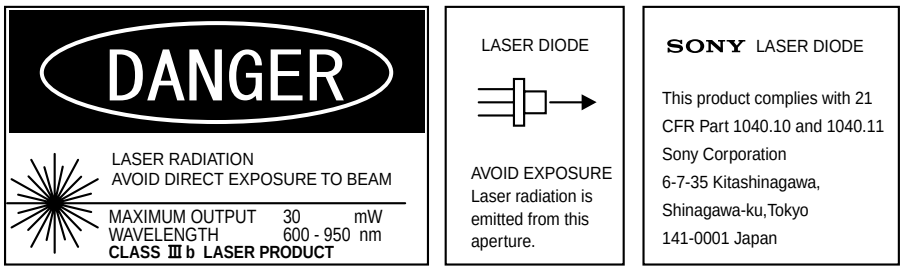
Electrical and Optical Characteristics (Tc = 25°C) Tc: Case temperature

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current		Ith		—	45	55	mA
Operating current		Iop	Po = 4mW	—	50	65	mA
Operating voltage		Vop	Po = 4mW	—	2.3	2.7	V
Wavelength		λp	Po = 4mW	—	655	660	nm
Differential efficiency		η_D	Po = 4mW	0.4	0.6	0.8	mW/mA
Radiation angle	Paralell	θ//	Po = 4mW	7	8.5	11	degree
	Perpendicular	θ⊥		25	35	40	degree
Astigmatism		As	Po = 4mW	—	12	20	µm
Positional accuracy	Angle	Δϕ//	Po = 4mW	—	—	±2	degree
		Δϕ⊥		—	—	±3	degree
	Position	ΔX, ΔY, ΔZ		—	—	±80	µm
Monitor current		Imon	Po = 4mW, V_R = 5V	0.05	0.1	0.3	mA

Notes on Operation

Care should be taken for the following points when using this product.

(1) This product corresponds to a Class 3B product under IEC60825-1 and JIS standard C6802 "Laser Product Emission Safety Standards".



(2) Eye protection against laser beams

Take care not to allow laser beams to enter your eyes under any circumstances.

For observing laser beams, ALWAYS use safety goggles that block laser beams. Usage of IR scopes, IR cameras and fluorescent plates is also recommended for monitoring laser beams safely.

(3) Gallium Arsenide

This product uses gallium arsenide (GaAs). This is not a problem for normal use, but GaAs vapors may be potentially hazardous to the human body. Therefore, never crush, heat to the maximum storage temperature or higher, or place the product in your mouth.

In addition, the following disposal methods are recommended when disposing of this product.

1. Engaging the services of a contractor certified in the collection, transport and intermediate treatment of items containing arsenic.
2. Managing the product through to final disposal as specially managed industrial waste which is handled separately from general industrial waste and household waste.

(4) Prevention of surge current and electrostatic discharge

Laser diodes are most sensitive to electrostatic discharge among semiconductors. When a large current is passed through the laser diode for even an extremely short time, the strong light emitted from the laser diode promotes deterioration and then destruction of the laser diode. Therefore, note that surge current should not flow to the laser diode driving circuit from switches and others. Also, if the laser diode is handled carelessly, it may be destroyed instantly because electrostatic discharge is easily applied by a human body. Therefore, be extremely careful about overcurrent and electrostatic discharge.

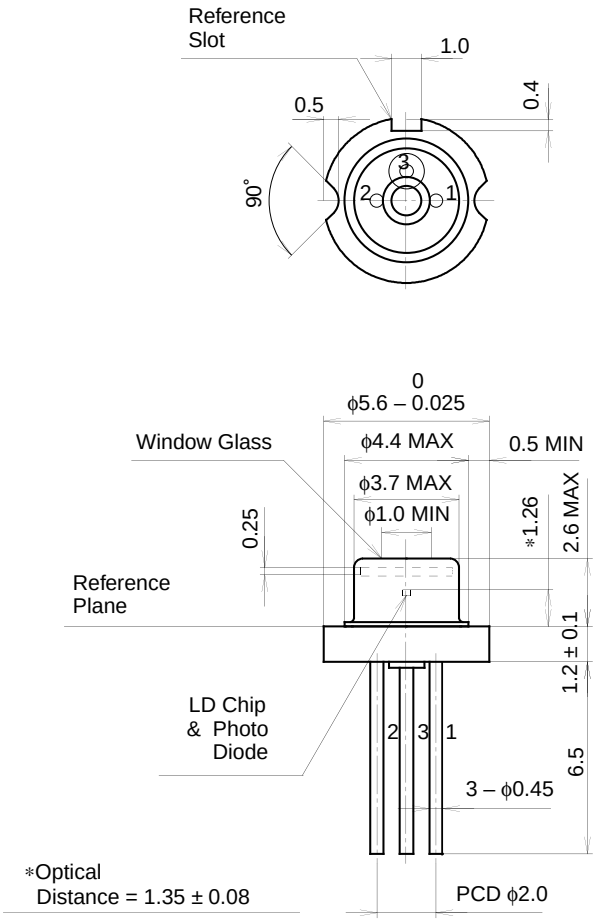
(5) Use for special applications

This product is not designed or manufactured for use in equipment used under circumstances where failure may pose a risk to life and limb, or result in significant material damage, etc.

Consult your Sony sales representative when investigating use for medical, vehicle, nuclear power control or other special applications. Also, use the power supply that was designed not to exceed the optical power output specified at the absolute maximum ratings.

Package Outline Unit: mm

M-274



SONY CODE	M-274
EIAJ CODE	————
JEDEC CODE	————

PACKAGE MASS	0.3g