SLD1137VS

650nm Index-Guided Red Laser Diode

Description

The SLD1137VS is an index-guided red laser diode for BCS.

Operating current is 25mA lower than SLD1133VS.

Features

- Small astigmatism (7µm typ.)
- Low operating current (35mA typ.)
- Small package (\$5.6mm)
- Single longitudinal mode

Applications

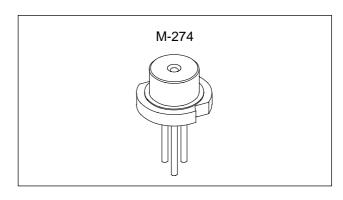
Bar code scanner

Structure

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

Recommend Optical Power Output

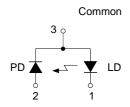
5mW



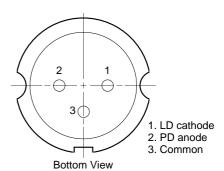
Absolute Maximum Ratings ($Tc = 25^{\circ}C$)

 Optical power output **Pomax** 7 mW • Reverse voltage VR LD 2 ٧ PD 15 ٧ • Operating temperature Topr -10 to +60°C °C • Storage temperature -40 to +85 Tstg

Connection Diagram



Pin Configuration



Sony reserves the right to change products and specifications without prior notice. This information does not convey any license by any implication or otherwise under any patents or other right. Application circuits shown, if any, are typical examples illustrating the operation of the devices. Sony cannot assume responsibility for any problems arising out of the use of these circuits.

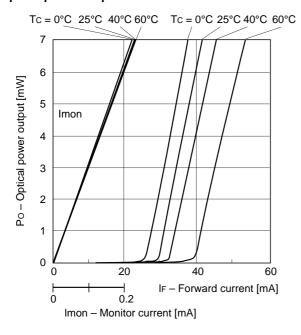
Electrical and Optical Characteristics (Tc = 25°C)

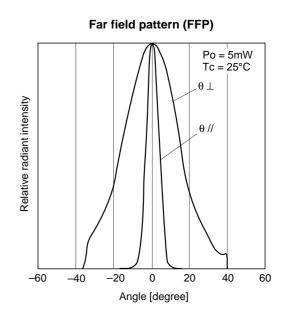
Tc: Case temperature

Item		Symbol	Conditions	Min.	Тур.	Max.	Unit
Threshold current		Ith			30	40	mA
Operating current		lop	Po = 5mW		35	45	mA
Operating voltage		Vop	Po = 5mW		2.2	2.7	V
Wavelength		λр	Po = 5mW		650	655	nm
Radiation angle	Perpendicular	θΤ	Po = 5mW	24	30	40	degree
	Parallel	θ//		6	8	12	degree
Positional accuracy	Position	ΔΧ, ΔΥ, ΔΖ	Po = 5mW			±80	μm
	Angle	Δφ//				±3	degree
		Δφ⊥				±3	degree
Differential efficiency		ηD	Po = 5mW	0.3	0.5	0.8	mW/mA
Astigmatism		As	Po = 5mW		7	15	μm
Monitor current		Imon	Po = 5mW, VR = 5V	0.05	0.1	0.5	mA

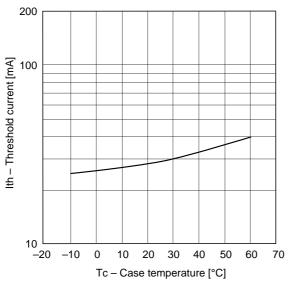
Example of Representative Characteristics

Optical power output vs. Forward current characteristics Optical power output vs. Monitor current characteristics

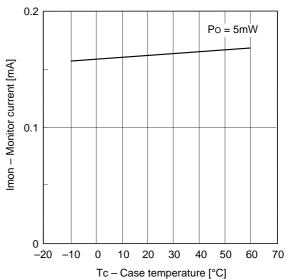




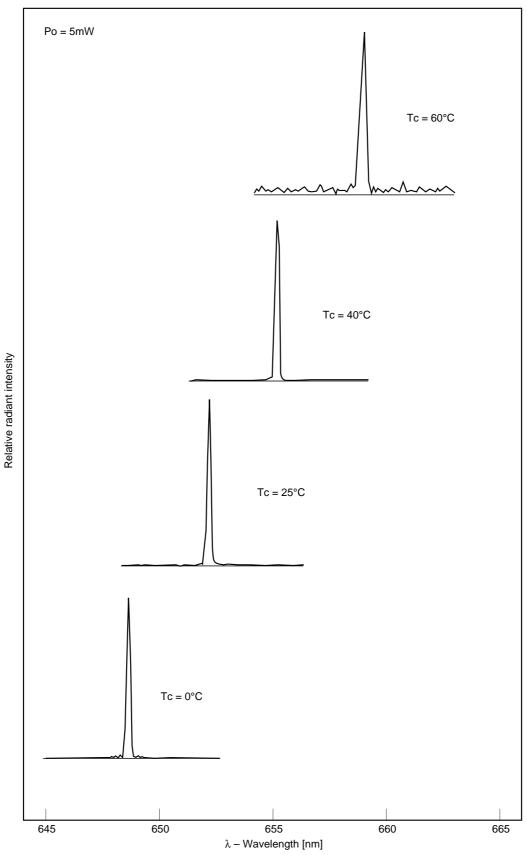
Threshold current vs. Temperature characteristics



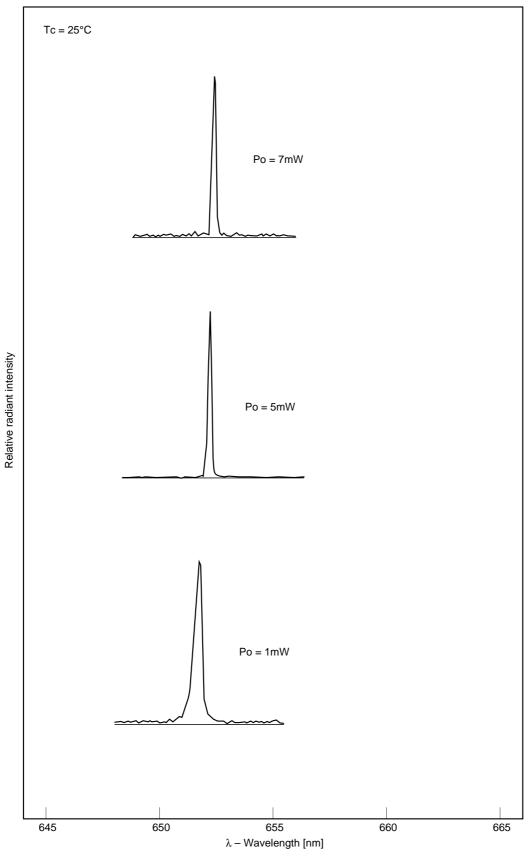
Monitor current vs. Temperature characteristics



Temperature dependence of spectrum



Power output depecdence of spectrum

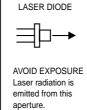


Notes on Operation

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

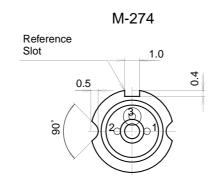
Laser diodes are most sensitive to electrostatic discharge among semiconductors. When a large current is passed through the laser diode for even an extremely short time, the strong light emitted from the laser diode promotes deterioration and then destruction of the laser diode. Therefore, note that 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.

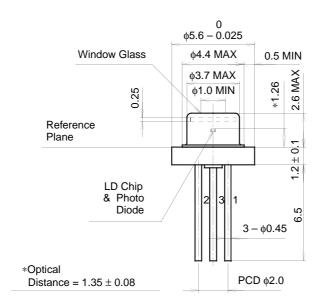
(5) Use for special applications

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





SONY CODE	M-274
EIAJ CODE	
JEDEC CODE	

PACKAGE MASS	0.3g