SONY

SLD1236VL-54

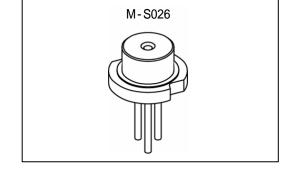## Index-Guided High Power AlGaInP Laser Diode

Description
The SLD1236VL-54 is an index-guided AlGaInP 650nm laser diode.

Feature
High power output
Low power consumption
Small astigmatism
Small package (5.6mm)
Cavity length 1400 μ m

M-S026

Applications
Optical pickup for DVD recording and play back

Structure
AlGaInP quantum well structured laser diode

Absolute Maximum Ratings

Rediant power output   Po   90   mW(CW)
                                           180   mW(Pulse)
                                           Pulse width 30ns or less
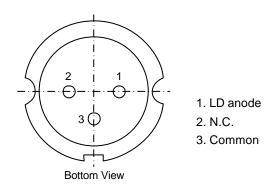   Duty 40% or less

Reverse voltage   VR   LD   2   V
Operating temperature   Topr   - 10 to + 75
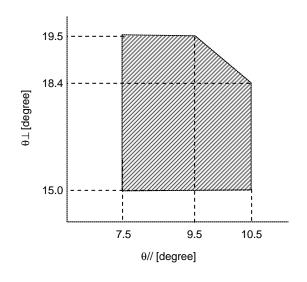Storage temperature   Tstg   - 40 to + 85

Connection Diagram

3 ○ Common

LD

1

Pin Configuration

2   1

3

1. LD anode
2. N.C.
3. Common

Bottom View

Electrical and Optical Characteristics (Tc=25)

Tc:Case temperature

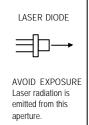| Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current		Ith	CW	-	50	60	mA
Operating current		Iop	CW, Po = 80mW	-	130	150	mA
Operating voltage		Vop	CW, Po = 80mW	-	2.5	3.0	V
Wavelength		λp	CW, Po = 80mW	653	658	662	nm
Differential efficiency		ηD	CW, Po = 80mW	0.75	1.0	1.25	mW/mA
Radiation angle	Parallel		CW, Po = 80mW	7.5	9.0	10.5	degree
	Perpendicular		CW, Po = 80mW	15.0	17.0	19.5	degree
	Sum of rediation angles	1.2 $\theta\parallel$ + $\theta\perp$	CW, Po = 80mW	-	-	31.0	degree
Astigmatism		As	CW, Po = 80mW	- 6	-	0	μm
Positional accuracy	Angle		CW, Po = 80mW	-	-	± 1.6	degree
			CW, Po = 80mW	-	-	± 2.5	degree
	Position	X, Y, Z		-	-	± 80	μm

Radiation angle CW,Po=80 W

Marking

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 IEC 60825-1 .

DANGER

LASER RADIATION
AVOID DIRECT EXPOSURE TO BEAM

MAXIMUM OUTPUT   500   mW
WAVELENGTH   600 - 950   nm
CLASS   b LASER PRODUCT

LASER DIODE

AVOID EXPOSURE
Laser radiation is
emitted from this
aperture.

SONY LASER DIODE

This product complies with 21
CFR Part 1040.10 and 1040.11

Sony Corporation
6-7-35 Kitashinagawa,
Shinagawa-ku,Tokyo
141-0001 Japan

(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.
    Also, use the power supply that was designed not to exceed the optical power output specified at the
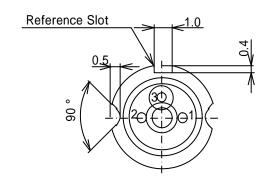   absolute maximum ratings.
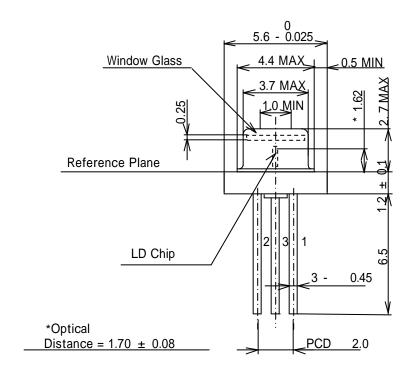
(5) Use for special applications
    This product is not designed or manufactured for use in equipment used under circumstances where
    failure may pose a risk to life and limb, or result in significant material damage, etc.
    Consult your Sony sales representative when investigating use for medical, vehicle, nuclear power control
    or other special applications.

Package Outline   Unit: mm

M-S026

Reference Slot ... 1.0

0.4

0.5

90°

③ ② ①

Window Glass

0
5.6 - 0.025

4.4 MAX   0.5 MIN

3.7 MAX

1.0 MIN

0.25

* 1.62

2 MAX

Reference Plane

0.1

1.2 ±

6.5

2 3 1

LD Chip

3 - 0.45

*Optical
Distance = 1.70 ± 0.08

PCD   2.0

SONY CODE	
EIAJ CODE	————
JEDEC CODE	————

PACKAGE MASS	0.3g

Sony Corporation