# SONY

SLD234VL

Index-Guided High Power AlGaAs Laser Diode *Preliminary*

Description

The SLD234VL is a high power index-guided AlGaAs laser diode.

Features

• High power
• Low power consumption
• Low astigmatism
• Small package (ϕ5.6mm)
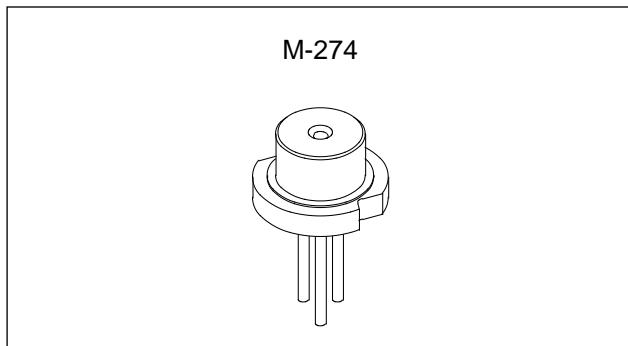
Applications

Pickups for optical discs

Structure

• AlGaAs quantum well-structured laser diode
• PIN photodiode for optical power output monitor

Recommended Operating Optical Power Output

50mW

M-274

Absolute Maximum Ratings (Tc = 25°C)

• Optical power output	Po		35	mW	(CW)
			80	mW	(Pulse)
					Pulse period of 1μs or less
					Duty of 50% or less
• Reverse voltage	VR	LD	2	V	
		PD	15	V	
• Operating temperature	Topr		−10 to +60	°C	
• Storage temperature	Tstg		−40 to +85	°C	

Connection Diagram
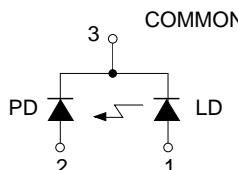
3 COMMON

PD   LD

2   1

Pin Configuration
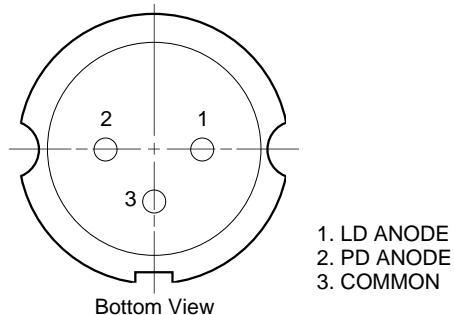
2   1

3

1. LD ANODE
2. PD ANODE
3. COMMON

Bottom View

PE97941-PS

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

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current		Ith	CW	15	20	30	mA
Operating current		Iop	CW, Po = 50mW	60	70	85	mA
Operating voltage		Vop	CW, Po = 50mW	—	2.0	2.5	V
Oscillation wavelength		λp	CW, Po = 50mW	775	785	795	nm
Differential efficiency		ηD	CW, Po = 50mW	0.8	1.0	1.3	mW/mA
Radiation angle	Parallel	θ//	CW, Po = 50mW	7	9	11	degree
	Perpendicular	$\theta\perp$	CW, Po = 50mW	19	22	27	degree
Astigmatism		As	CW, Po = 50mW	—	—	−6	μm
Monitor current		Im	CW, Po = 50mW, VR (PIN) = 5V	—	0.05	—	mA
Positional accuracy	Angle	$\Delta\phi$//	CW, Po = 50mW	—	—	±2.0	degree
		$\Delta\phi\perp$	CW, Po = 50mW	—	—	±3.0	degree
	Position	ΔX, ΔY, ΔZ		—	—	±80	μm

Package Outline   Unit: mm

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Reference
Slot
1.0
0.4
0.5
90°

Window Glass
$\phi 5.6 - 0.025^{0}$
$\phi 4.4$ MAX
0.5 MIN
$\phi 3.7$ MAX
$\phi 1.0$ MIN
∗1.26
2.6 MAX
0.25
Reference
Plane
1.2 ± 0.1
LD Chip
& Photo
Diode
6.5
3 – $\phi 0.45$
∗Optical
Distance = 1.35 ± 0.08
PCD $\phi 2.0$
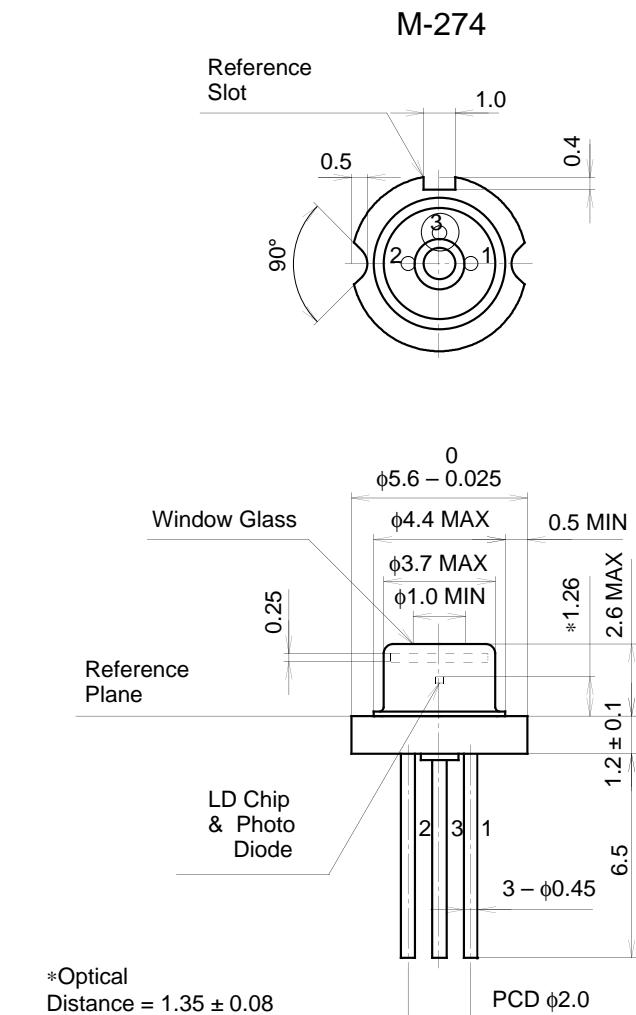
SONY CODE	M-274
EIAJ CODE	———
JEDEC CODE	———

PACKAGE WEIGHT	0.3g