

SONY

200 mW 850 nm ϕ 5.6 mm Laser Diode

Preliminary

SLD259VS

Description

The SLD259VS is a 200 mW 850 nm laser diode with TO56 package.

(Applications : 3D Sensing, Depth Sensing, Gesture Recognition)

Features

- ◆ High power : 200mW
- ◆ Package size : ϕ 5.6 mm

Structure

- ◆ AlGaAs quantum well-structured laser diode

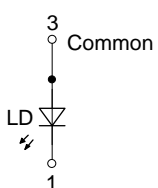
Recommended Optical Power Output

200 mW

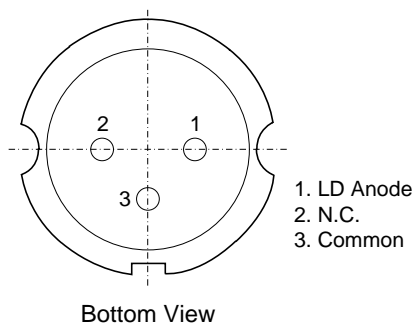
Absolute Maximum Ratings

◆ Optical power output	Pomax	250	mW
◆ Reverse voltage	V_R LD	2	V
◆ Operating temperature	Topr	+ 10 to + 60	°C
◆ Storage temperature	Tstg	- 40 to + 85	°C

Connection Diagram



Pin Configuration



Electrical and Optical Characteristics

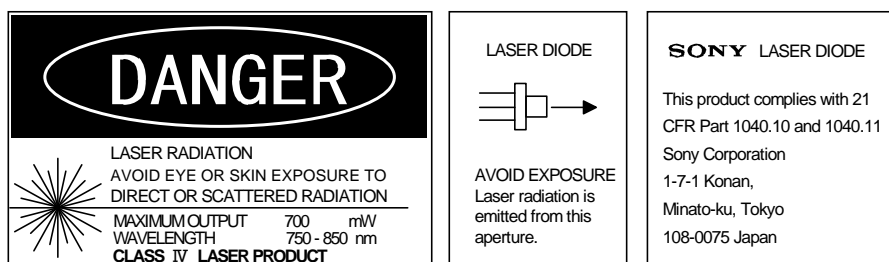
(Tc = 25 °C unless otherwise specified Tc : Case temperature)

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current		I _{th}		—	30	50	mA
Operating current		I _{op}	P _o = 200 mW	—	210	270	mA
Operating voltage		V _{op}	P _o = 200 mW	—	2.2	2.5	V
Differential efficiency		η	P _o = 200 mW	0.85	1.10	1.30	mW/mA
Wavelength		λ _p	P _o = 200 mW	840	850	860	nm
Divergence angle	Parallel	θ _{//}	P _o = 200 mW	5.0	8.0	11.0	degree
	Perpendicular	θ _⊥		14.0	17.0	20.0	degree
Deviation angle	Parallel	Δφ _{//}	P _o = 200 mW	—	—	± 3	degree
	Perpendicular	Δφ _⊥		—	—	± 3	degree
Emitting point position accuracy		ΔX, ΔY, ΔZ		—	—	± 80	μm

Notes on Handling

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

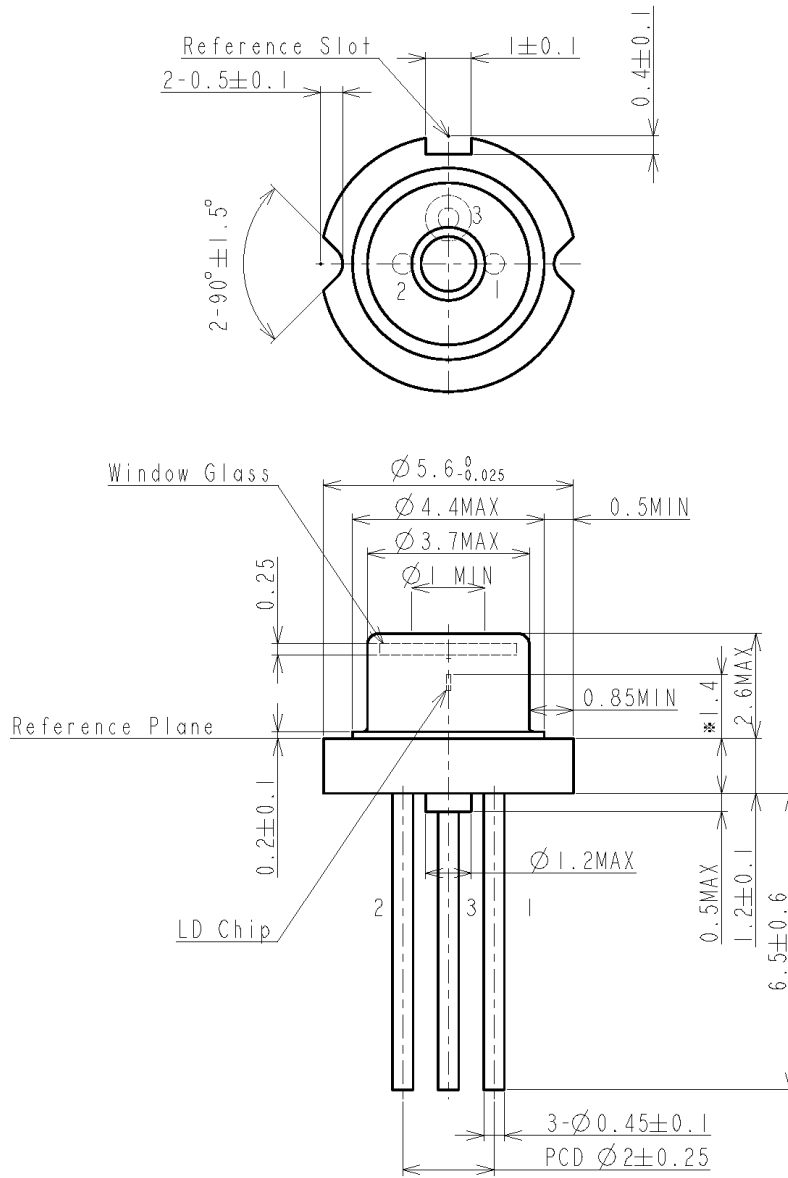
1. This product corresponds to a Class 4 product under IEC 60825-1.



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 over current 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
6. "Environment-related Substances to be Controlled"
No substances classified at Level 1 (immediate ban) of Sony Technical Standard, SS-00259, "Management regulations for the Environment- related Substances to be Controlled". The excerpt from SS-00259 is introduced on following URL.
<http://www.sony.net/SonyInfo/procurementinfo/ss00259/>

Package Outline

(Unit : mm)



*Optical Distance=1.49±0.08

SONY CODE	M-S051
JEITA CODE	-
JEDEC CODE	-

PACKAGE MASS	0.3g
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Purpose of Use of the Products:

Customer shall use the Products with the utmost concern for safety, and shall not use the Products for any purpose that may endanger life or physical wellbeing, or cause serious damage to property or the environment, either through normal use or malfunction.

Use of the Products for purposes other than those stipulated in this specification is strictly prohibited.

Furthermore, usage of the Products for military purposes is strictly prohibited at all times.

Safe Design:

- ◆ Customer is responsible for taking due care to ensure the product safety design of its products in which the Products are incorporated, such as by incorporating redundancy, anti-conflagration features, and features to prevent mis-operation, in order to prevent accidents resulting in injury, death, fire, or other social damage as a result of failure.

Product Information:

- ◆ The product specifications, and any and all other technical information and content contained in this specification, as well as any other information and materials provided to Customer in connection with the Products (collectively, "Product Information") have been provided to Customer for reference purpose only, and the availability and disclosure of such Product Information and its usage by Customer shall not be construed as giving any indication that Sony, its subsidiaries and/or its licensors will license any right, including intellectual property rights in such Product Information by any implication or otherwise.

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Compliance with Laws:

- ◆ Customer shall comply with all applicable laws, ordinances, rules and regulations in connection with the usage of the Products, including the export control laws or regulations of various countries and shall be fully responsible for obtaining approvals in connection with the export of the Products in accordance with such said laws, ordinances, rules and/or regulations.

Governing Law:

- ◆ This specification and the terms and conditions contained herein shall be governed by and construed in accordance with the laws of Japan, without reference to principles of conflict of laws or choice of laws. All controversies and disputes arising out of or relating to this specification and the terms and conditions contained herein shall be submitted to the exclusive jurisdiction of the Tokyo District Court in Japan as the court of first instance.

Notes:

- ◆ The product specifications, technical information and any and all other information and content relating to the Products contained in this specification may be revised or updated by Sony at Sony's sole discretion without prior notice to the Customer and Customer shall abide by their latest versions. Such revisions or updates will be made available to Customer in a way as Sony deems appropriate.
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