

Messrs. VERTEX ELECTRONICS TECHNOLOGY COMPANY,LTD

OPTO DEVICE SPECIFICATIONS

HL63183DG

Please return this copy with your signature to acknowledge your approval.

Signature

Date

Print Name

Oclaro Japan, Inc.

Takahiko Kondo
Takahiko Kondo

Safety Considerations

Be sure to avoid direct exposure of human eyes to high power laser beams emitted from laser diodes. Even though barely visible and/or invisible to the human eye, they can be quite harmful. In particular, avoid looking directly into a laser diode or collimated beam along its optical axis when the diode is activated. One simple way to determine the optical path is to use a phosphor plate or infrared sensitive camera.

Oclaro certifies compliance with US Safety Regulations (21 CFR Subchapter J) on laser products, as stipulated by the U.S. Department of Health and Human Services. The Oclaro products shown here correspond to the category "CLASS IIIB LASER PRODUCT" in this regulation.

 "VISIBLE AND/OR INVISIBLE LASER RADIATION- AVOID DIRECT EXPOSURE TO BEAM" PEAK POWER 500mW WAVELENGTH 380 to 880 nm "CLASS IIIB LASER PRODUCT" This product conforms to FDA regulations 21 CFR Chapter I, Subchapter J.	AVOID EXPOSURE: Visible and/or invisible laser radiation is emitted from glass window, fiber pigtail end, laser chip mounted on top of header or bare chip. Before use, consult appropriate catalogs or manuals. beam direction →  MANUFACTURED: Oclaro Japan, Inc. 190 Kashiwagi, Komoro-shi, Nagano-ken, 384-8511 Japan Tel: +81-267-26-1816	USER INSTRUCTIONS: This laser device in operation produces visible and/or invisible laser radiation. Be sure to avoid direct exposure of human eyes to beams emitted from laser diode. Even though they are barely visible and/or invisible to the human eye, they can be quite harmful. In particular, avoid looking directly into a laser diode or collimated beam along its optical axis when it is in operation. One simple way to determine the optical path is to use a phosphor plate or infrared sensitive camera. These devices are components to be used in producing complete laser systems. They do not emit radiation unless combined by the end user with other components. Please consult the Opto Device Data Book for some of the possible uses of these devices. Because of the small size of the device, the required labels and these instructions are provided on this label rather than printed on the device.
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Cautions

1. The laser light is harmful to human body especially to eye no matter what directly or indirectly. The laser beam shall be observed or adjusted through infrared camera or equivalent.
2. This product (without violet laser diode) contains gallium arsenide (GaAs), which may seriously endanger your health even at very low doses. Please avoid treatment which may create GaAs powder or gas, such as disassembly or performing chemical experiments, when you handle the product. When disposing of the product, please follow the laws of your country and separate it from other waste such as industrial waste and household garbage.
3. Definition of items shown in this CAS is in accordance with that shown in Opto Device Databook issued by Oclaro Japan, Inc. unless otherwise specified.

HL63183DG Revision Description

[illegible]

HL63183DG Drawing Content

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HL63183DG Specification

1. Description

The HL63183DG is 0.63 μm band AlGaInP laser diodes with a multi-quantum well (MQW) structure. It is suitable as light sources for laser levelers, laser scanners and optical equipment for measurement. This product should be supplied from Oclaro to Vertex only.

2. Features

- Visible light output: 638 nm Typ
- Single transverse mode
- Optical output power: 170 mW CW
- TE mode oscillation
- Small package: $\phi 5.6\text{mm}$ CAN

3. Absolute maximum ratings (Tc=25±3°C, unless otherwise specified)

No.	Items	Symbols	Ratings	Unit	Note
1	Optical output power	P _o	170	mW	
2	LD reverse voltage	V _{R(LD)}	2	V	
3	Operating temperature	T _{opr}	-10 to +40	°C	
4	Storage temperature	T _{stg}	-40 to +85	°C	

Note:

Operating temperature is defined by Case temperature "Tc". High increase in temperature of LD chip itself is expected during operation due to high current density. Thus, without proper heat dissipation, it is observed that no specific output power is achieved or it results to LD degradation. It is advised that sufficient measure of heat dissipation should be taken so that LD's maximum operating temperature is not exceeded during actual operation.

4. Optical and Electrical Characteristics (Tc=25±3°C, unless otherwise specified)

No.	Items	Symbols	Test condition	Limit			Unit	Note
				Min.	Typ.	Max		
1	Threshold current	I _{th}	-	-	60	90	mA	
2	Operating current	I _{OP}	P _o =170mW	-	250	320	mA	
3	Operating voltage	V _{OP}	P _o =170mW	-	2.8	3.2	V	
4	Beam divergence parallel to the junction	θ _{//}	P _o =170mW, FWHM	5	9	13	°	
5	Beam divergence perpendicular to the junction	θ _⊥	P _o =170mW, FWHM	13	17	23	°	
6	Lasing wavelength	λ _P	P _o =170mW	632	638	643	nm	

5. Life time

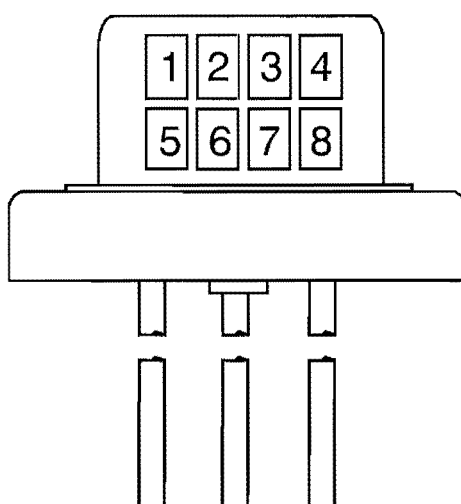
No.	Items	Symbols	Test condition	Limit			Unit	Note
				Min.	Typ.	Max		
1	Expected failure probability	F(t)	Po=170mW, Tc=40°C APC op., t=1000h	-	-	1	%	
2	Failure criteria	ΔI_o	I _o increase from initial value at Tc=25°C	-	-	20	%	

6. Mechanical Specification

No.	Items	Symbols	Test condition	Limit			Unit	Note
				Min.	Typ.	Max		
	Package Dimension		See outline figure					

7. Mark layout

The marking code on the side of cap is specified by the following.



1st character: "J" (Fixed code for this product)

2nd character: "N" (Fixed code for this product)

3rd character: Year code shows the last digit of the year (ex. "3" means the year of 2013)

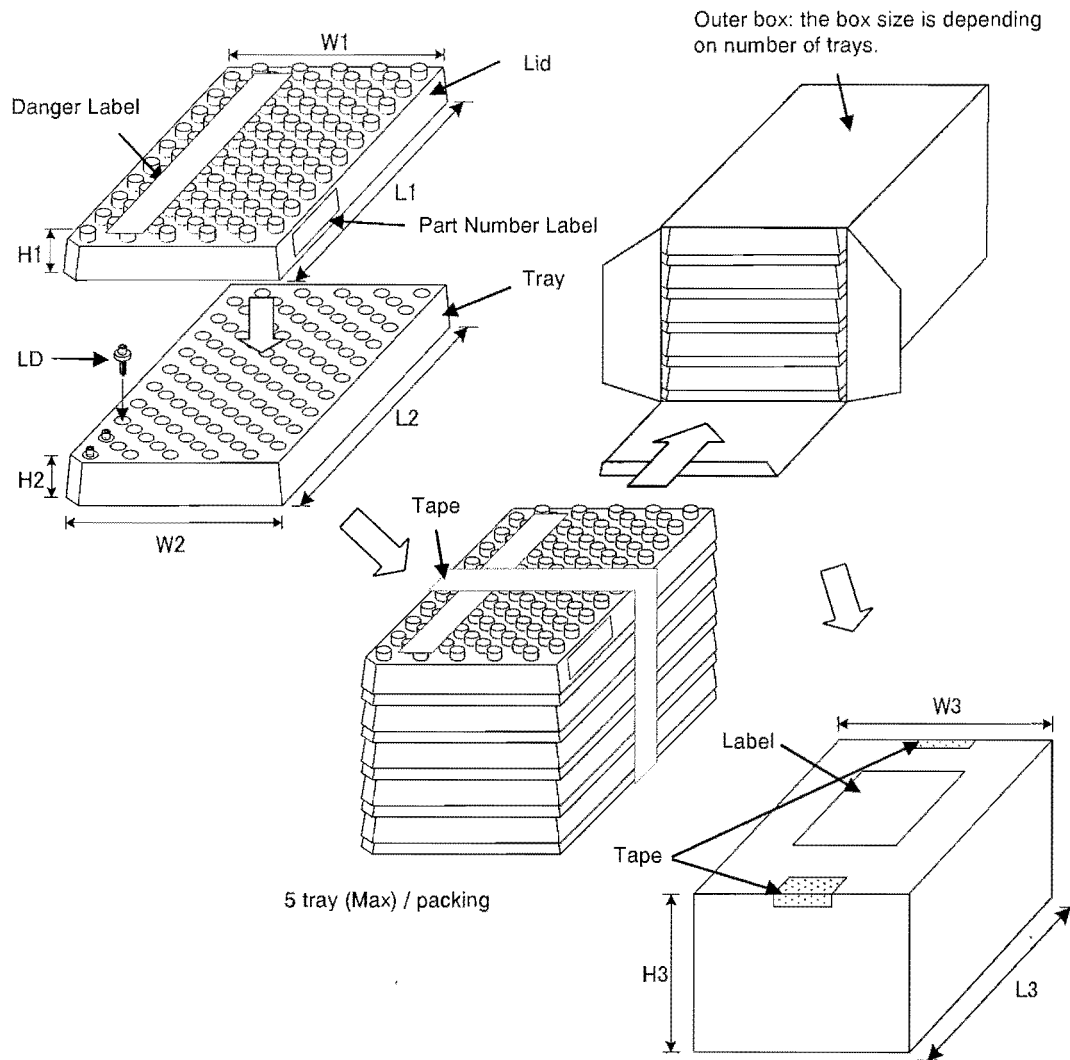
4th character: Month code shows the following table. (ex. "4" means the month of Apr)

5th to 8th character: Oclaro internal management code

Table-1) the reference table for month code

Month	1	2	3	4	5	6	7	8	9	10	11	12
Code	A	B	C	D	E	F	G	H	J	K	L	M

8. Packing Specification



5.6mm ϕ LD Package Packing specification

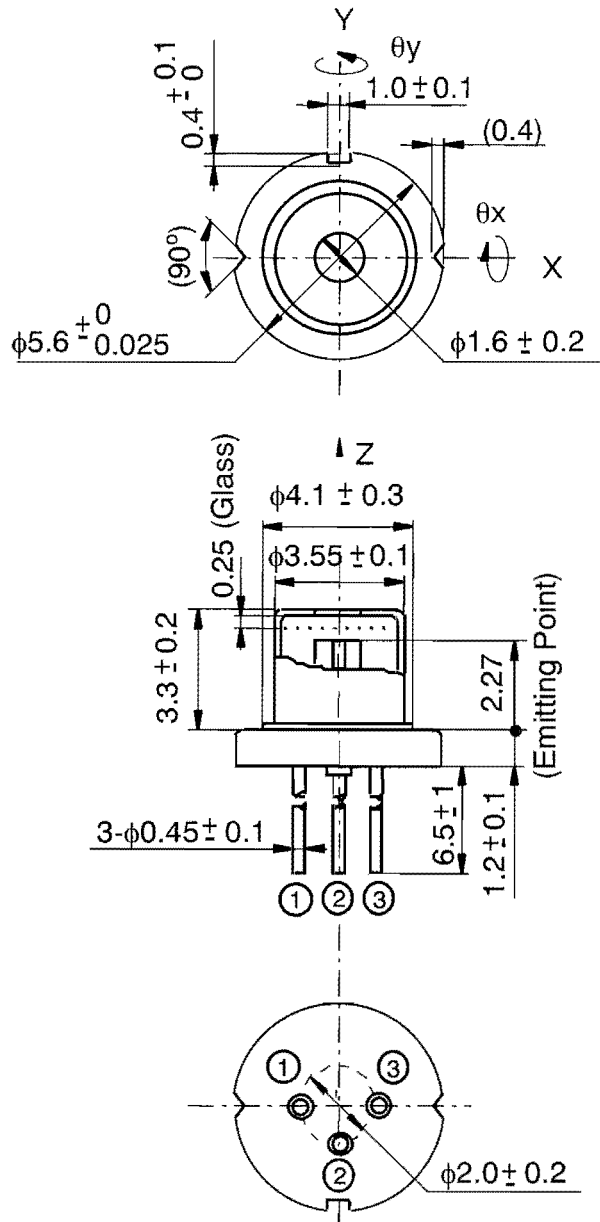
Unit (mm)

			A *1	B *1	C *1	D *1	E *1
Maximum LD quantity/ a tray			100				
Tray Size	Lid	W1xL1xH1	69x109x15.5				
	Tray	W2xL2xH2	68x108x15				
Maximum LD quantity (pcs)/ a box			100	200	300	400	500
Number of trays(pcs)/ a box			1	2	3	4	5
Outer box size(mm)		W3xL3xH3	70x110x20	70x110x35	70x110x49	70x110x64	70x110x79
Barcode Label *2			Part number, Quantity, Lot number				

*1 The outer box size is outfitted with A to E depending on number of trays.

*2 The label position and format are subject to change without notice.

11. Outline



Units: mm

1. Mechanical dimension

Beam point (Ref. Flange Center)

$$|\Delta X|, |\Delta Y|, |\Delta Z| \leq 80 \mu\text{m}$$

$$|\Delta \theta_x|, |\Delta \theta_y| \leq 2 (^{\circ})$$

2. Optical Beam Point 2.35 mm

Internal circuit

