

Spec. No. : ODT-W010-107(0)

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SPECIFICATION

MODEL NAME : Ultra Violet -LED

MODEL NO. : OL375KLB-N



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■ Description

The OL375KLB-N is high-power UV-LED chip mounted in a TO-18 header with metal can encapsulation with a peak wavelength of 375nm.

■ Features

- Relatively low cost metal-can package.
- Narrow beam angle
- High power

■ Applications

- Forged bill sensor
- High performance linear sensor



■ Absolute Maximum Ratings

(Ta= 25℃)

Parameter	Symbol	Ratings	Unit
Forward Current	IF	25	mA
Pulse Forward Current *1	IFP	100	mA
Operating Temperature	TOPR	-30 ~80	℃
Storage Temperature	TSTG	-30 ~ 100	℃

*1 : Pulse width tw=100us, T=10ms

■ Electro-Optical Characteristics

(Ta=25℃)

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Forward Voltage		VF	IF=20mA	3.2	3.6	4.2	V
Peak Wavelength		λ p	IF=20mA	—	375	—	nm
Spectral Bandwidth 50%		Δ λ	IF=20mA	—	12	—	nm
Half Angle		Δ θ	—	—	±9	—	Deg.
Radiant Intensity*1	RANK 1	Po	IF=20mA	—	—	330	
	RANK 2	Po	IF=20mA	330	—	360	mV
	RANK 3	Po	IF=20mA	360	—	380	mV
	RANK 4	Po	IF=20mA	380	—	—	mV

*1 : Please refer to Page4, ■ Test method of radiant intensity.

■ Typical electrical / Optical characteristic curves

(Ta=25 °C)

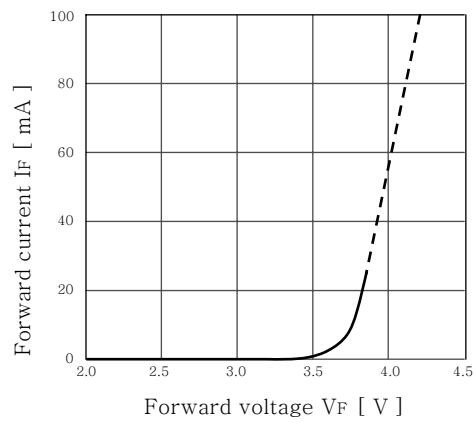


Fig.1 Forward current vs. Forward voltage

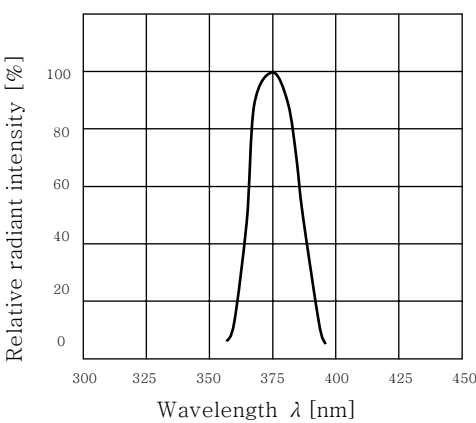


Fig.2 Relative spectra output

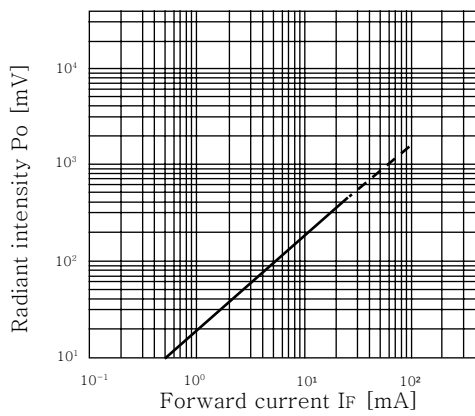


Fig.3 Radiant intensity vs. Forward current

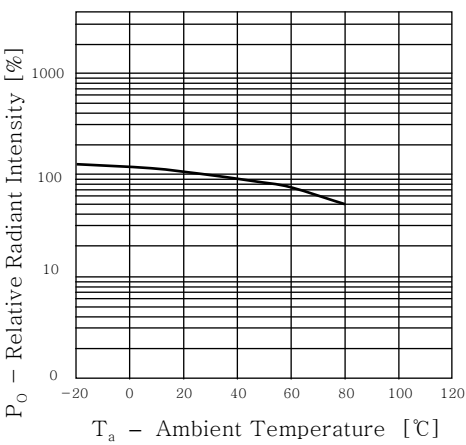


Fig.4 Relative radiant intensity vs. Ambient temperature

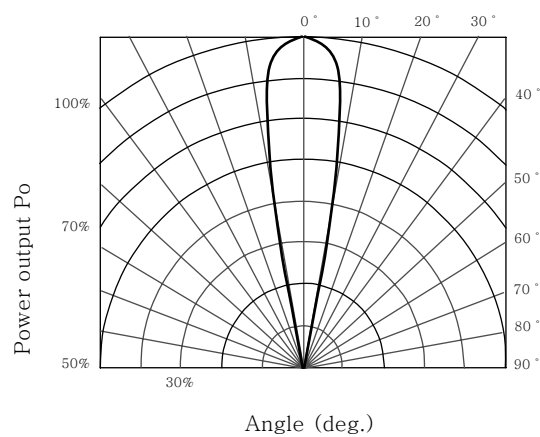
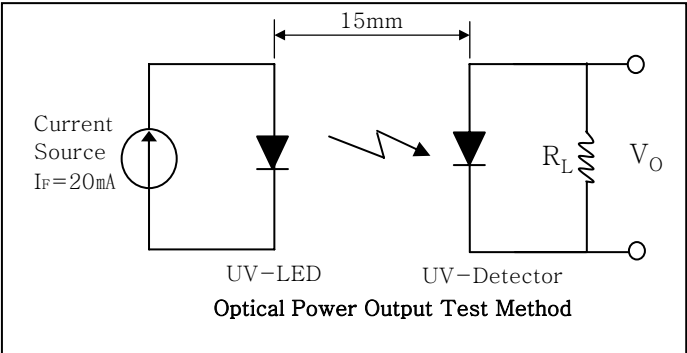


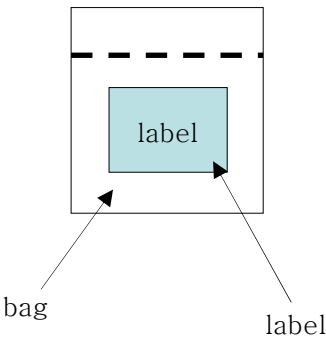
Fig.5 Radiant pattern

■ Test method of radiant intensity.



■ Packing method

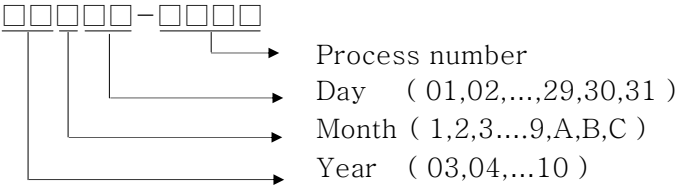
- The optical detectors are packed in boxes after packing in bags. Please refer to figure.
- The label on the minimum packing unit shows ; Part number, Lot number, Ranking, Quantity
- In order to protect the optical detectors from mechanical shock, we pack them in boxes for transportation.
- The optical detectors may be damaged if the boxes are dropped or receive a strong impact against them so precautions must be taken to prevent any damage.
- The boxes are not water resistant and therefore must be kept away from water and moisture.



ODTech	
DEVICE NAME	
DEVICE NO.	
RANK	
Lot NO.	
QUANTITY	
Opto-Device Technology	

■ Lot number

- The first five digits number shows lot number.
- The lot number is composed of the following characters;



■ Cleaning

- When washing is required, isopropyl alcohol should be used.
- The influence of ultrasonic cleaning on the optical detectors differs depending on factors such as oscillator output and how the optical detectors are mounted. Before cleaning by ultrasonic wave, testing should be performed to ensure this will not cause damage to the optical detectors.

■ Storage

- The optical detectors should be stored at 30℃ or less and 70%R.H or less after being shipped from ODTech and the storage life limits are 3 months. If the optical detectors are stored for 3 months or more, they can be stored for a year in a sealed container with a nitrogen atmosphere and moisture absorbent material.
- ODTech optical detectors leads are comprised of a gold plated iron alloy. The gold surface may be affected by environments which contain corrosive gases and so on. Please avoid conditions which may cause the device to corrode, tarnish or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the optical devices be used as soon as possible.
- Please avoid rapid transitions in ambient temperature, especially, in high humidity environments where condensation can occur.

■ Lead forming

- When forming leads, the leads should be bent at a point at least 3 mm from the base of the lead. Do not use the base of the lead as a fulcrum during lead forming.
- Lead forming should be done before soldering .
- Do not apply any bending stress to the base of the lead. The stress to the base may damage the optical detector's characteristics of it may break the optical detectors.
- When mounting the optical detectors onto a printed circuit board, the holes on the circuit board should be exactly aligned with the leads of the optical detectors. If the optical detectors are mounted with stress at the leads, it causes deterioration of the can and this will degrade the optical detectors.

■ Soldering condition

- Solder the optical devices no closer than 3 mm from the base of the lead.
- Maximum Allowable Soldering Conditions.

Soldering	Soldering Dipping
Soldering Iron : 30W Max. Temperature : 300℃ Max. Soldering Time : 3 seconds Max. Position : No closer than 3 mm from the base of the lead.	Pre-Heat : 100℃ Max. Per-Heat Time : 60 seconds Max. Solder Bath Temperature : 260 ℃ Max. Dipping Time : 5seconds Max. Dipping Position : No lower than 3 mm from the base of the lead.

■ Reliability Test

(1) Test Items and Results

Test Item	Test condition	LTPD	
		Quantity	Time
Solderability	Tsol=235±5℃, 5sec	45	—
Steady State Operating Life	Ta = 25±5℃, IF = 20mA	45	1,000Hr
High Temp. Life	Ta = 80℃	45	1,000Hr
High Temp. Storage	Ta = 100℃	45	1,000Hr
Low Temp. Storage	Ta = -30℃	45	1,000Hr
High Temp. High Humi. Storage	Ta = 60℃ / R.H.=90%	45	1,000Hr
PCT	Ta = 121℃, R.H. =100%, P=2atm.	45	4Hr

(2) Criteria for Judgment

Item	Symbol	Test condition	Criteria for Judgement	
			Min.	Max.
Forward Voltage	VF	IF = 20mA	—	I X 1.1
Optical Power Output	PO	IF = 20mA	I*1 X 0.7	—

*1) I : Initial Value

Outline Dimensions

(Unit : mm)

