

**Harvatek 5mm Round Type Photo diode with Taping**  
**HV-1203303C-H0-L6**

Official Product	HV-1203303C-H0-L6	Customer Part No.		Data Sheet No.
	*****	*****		CDAE-010-273
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Apr. 21. 2020	Version of 1.1	Page 1/9

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1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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## Compliance and Certification

ISO9002, QS9000 and ISO14001 Certified  
RoHS Compliant



## Orderable Information

**H V - 1 2 0 3 3 0 3 C - H0 -L6**

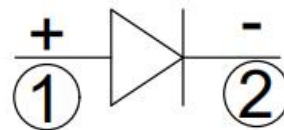
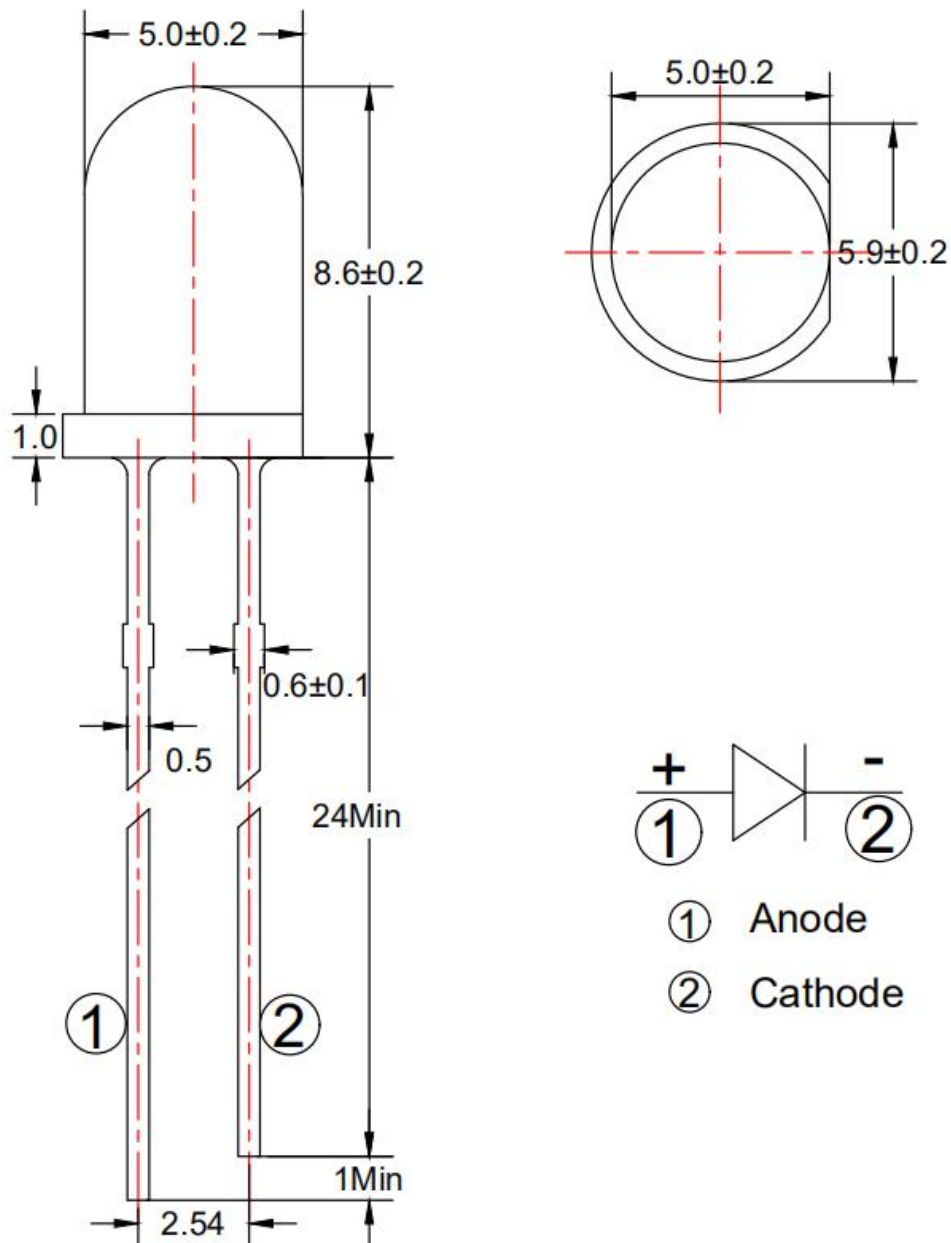
Series Name	Color Code	Remark
HV : HARVATEK	120 : 940nm PD Chip. 3303 : 5.0mm Round Type Photo diode, 8.6mm Lens C:Water Clear H0-L6 : HARVATEK Part No.	

## Features:

- Stable Color
- Popular 5.0mm Round Type Photo diode, 8.6mm lens height
- Water Clear Lens.

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			Page 3/9

## Package Dimensions



① Anode  
② Cathode

### Notes:

1. All dimensions are millimeters.
2. Tolerance is  $\pm 0.25$  mm unless otherwise noted.
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			Page 4/9

**Absolute Maximum Ratings at Ta=25°C**

Parameter	Symbol	Rating	Unit
Reverse Voltage	VR	32	V
Operating Temperature	Topr	-40to+85	°C
Storage Temperature	Tstg	-40to+100	°C
Soldering Temperature*1	Tsol	260±5	°C
Power Dissipation	Pd	150	mW

\*1:Soldering time  $\leq$  5 seconds.

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## Electrical and Optical Characteristic

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$BV_R$	$E_e=0$ $I_R=100\mu A$	32	170	/	V
Open Circuit Voltage	$V_{oc}$	$E_e=5\text{mw}/\text{cm}^2$ $\lambda_p=940\text{nm}$	/	0.4	/	V
Dark Current	$I_d$	$E_e=0$ $V_R=10\text{V}$	/	5	30	nA
Reverse Light Current	$I_L$	$E_e=1\text{mw}/\text{cm}^2$ $\lambda_p=940\text{nm}$ $V_R=5\text{V}$	15	30	/	$\mu A$
Total Capacitance	$C_t$	$E_e=0$ $V_R=5\text{V}$ $f=1\text{mHz}$	/	10	/	pF
Peak Wavelength	$\lambda_p$	/	/	940	/	nm
Rang of Spectral Bandwidth	$\Delta\lambda$	/	400	/	1100	nm
Rise time/Fall time	$t_r/t_f$	$V_R=5\text{V}$ $R_L=100\Omega$	/	45/45	/	ns
View Angle	$2\theta_{1/2}$	$I_F=20\text{mA}$	/	80	/	deg

### Notes:

1.  $\theta_{1/2}$  is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. Luminous intensity: +/-15%.
3. Wavelength: +/-1nm.

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## Reliability test items and conditions:

The reliability of products shall be satisfied with items listed below.

Confidence level: 97%

LTPD:3%

No	Item	Test Conditions	Test Hours/Cycle	Sample Size	Failure Judgment Criteria	Ac/Er
1	Solder Heat	TEMP:260°C±5°C	10 SEC	76 PCS	$I_v \leq I_{vt} * 0.5$ or $V_f \leq U$ or $V_f \leq L$	0/1
2	Temperature Cycle	H:+100°C 15min ∫ 5min L:-40°C 15min	300 CYCLES	76 PCS		0/1
3	Thermal Shock	H:+100°C 5min ∫ 10sec L:-10°C 5min	300 CYCLES	76 PCS		0/1
4	High Temperature Storage	TEMP:100°C	1000 HRS	76 PCS		0/1
5	Low Temperature Storage	TEMP:-40°C	1000 HRS	76 PCS		0/1
6	DC Operating Life	TEMP:25°C IF=20mA	1000 HRS	76 PCS		0/1
7	High Temperature / High Humidity	85°C/85%RH	1000 HRS	76 PCS		0/1

Note: Ivt: To test I<sub>v</sub> value of the chip before the reliability test.

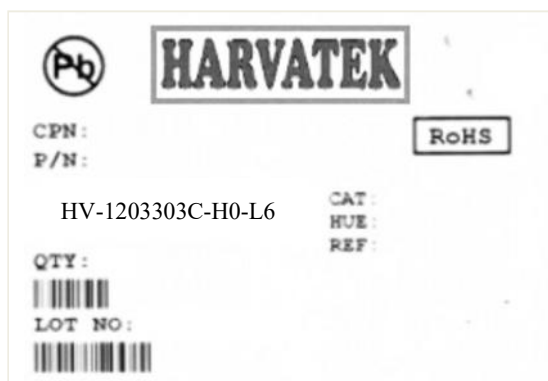
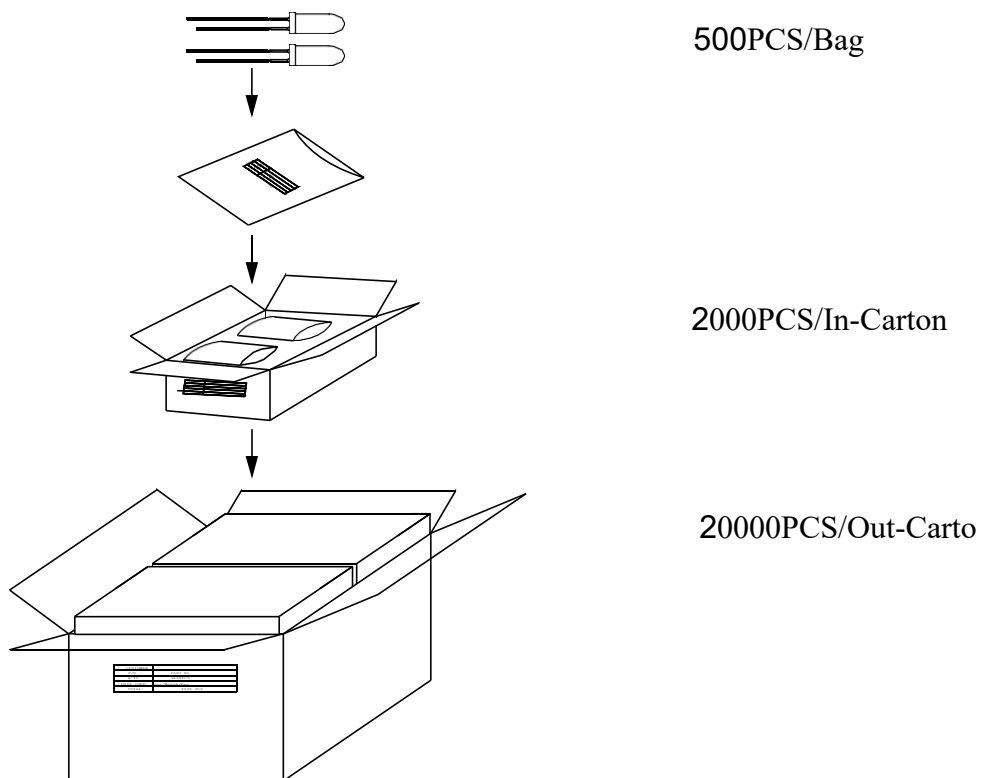
I<sub>v</sub>: The test value of the chip that has completed the reliability test

U: Upper Specification Limit

L: Lower Specification Limit

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	*****	*****		CDAE-010-273
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Apr. 21. 2020	Version of 1.1	Page 7/9

## Packing Specification:



Official Product	HV-1203303C-H0-L6	Customer Part No.		Data Sheet No.
	*****	*****		CDAE-010-273
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Apr. 21. 2020	Version of 1.1	Page 8/9



**Revision History**

Revision	Page	Version No.	Revision Date
Initial Release		1.0	11-9-2018
Revisions on drawings and pack	4/8	1.1	04-21-2020

Official Product	HV-1203303C-H0-L6	Customer Part No.		Data Sheet No.
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Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Apr. 21. 2020	Version of 1.1	Page 9/9