

**Harvatek Side Look Type Photo Diode****HV-1206038C-L50-J0018**

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Official Product	HV-1206038C-L50-J0018	Customer Part No.	Data Sheet No.
*	*****	*****	HV-1206038C-L50-J0018
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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 - 120 6038 C - L50 - J0018**

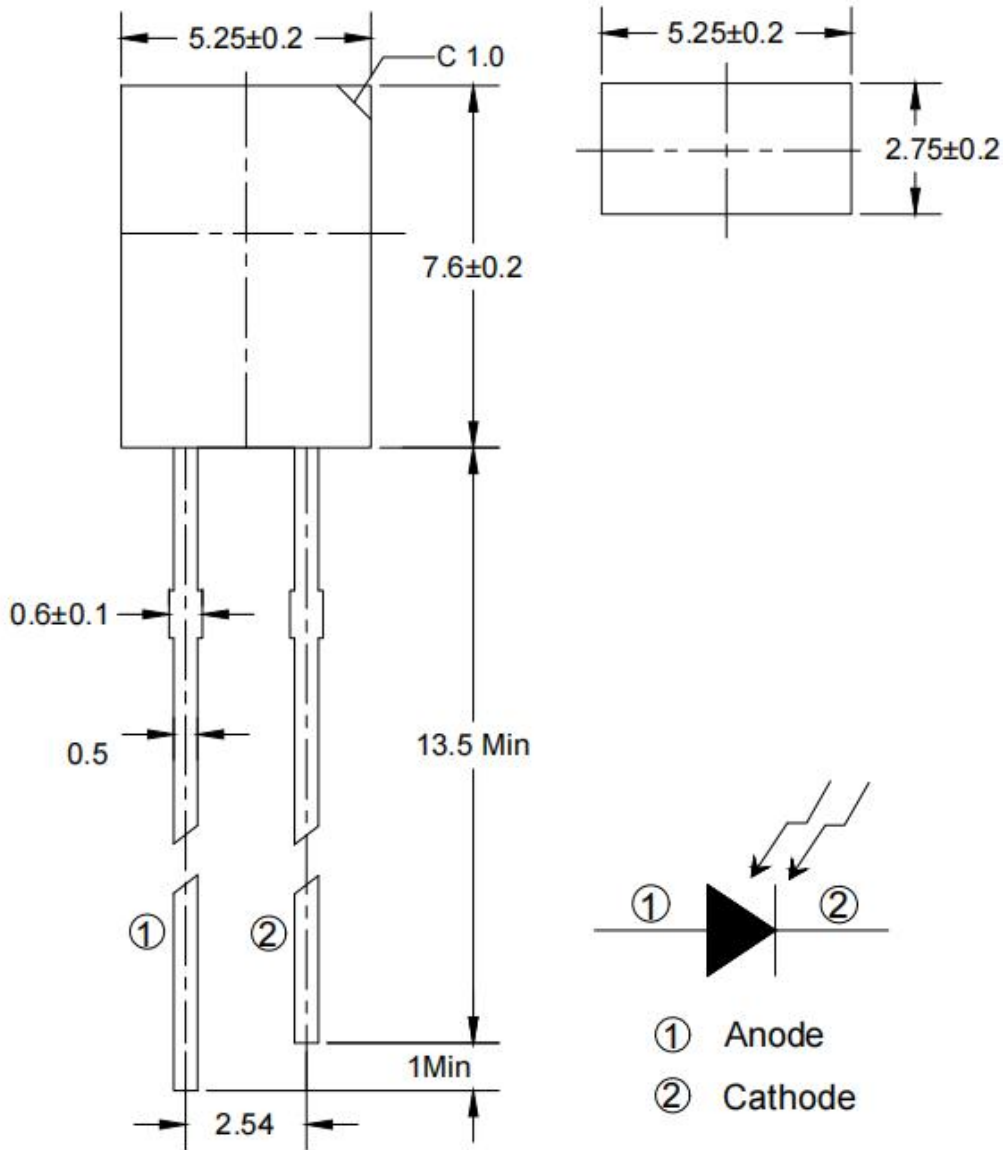
Series Name	Color Code	Remark
<b>HV :</b> <b>HARVATEK</b>	<b>120:</b> Side Look Type Photo diode 940nm PD Chip. <b>6038:</b> 5.25*2.75*7.6 MM Square LED Lens. <b>C :</b> Water Clear. <b>L50:</b> HARVATEK Part No.	<b>J0018:</b> Customer Product Code

## Features:

- Stable Color.
- Popular Side Look Type Photo diode.
- Water Clear Lens.

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## Package Dimensions:



### Notes:

1. All dimensions are millimeters.
2. Tolerance is  $\pm 0.25$  mm unless otherwise noted.
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## Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Units
Reverse Voltage	VR	30	V
Power Dissipation	PD	150	mW
Lead Soldering Temperature(*1)	Topr	260	°C
Operating Temperature	Tstg	-40~ +85°C	°C
Storage Temperature	Tsol	-40 ~ +85°C	°C

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

## Electrical and Optical Characteristic

Parameter	Symbol	Condition	Min	Typ	Max	Units
Rang of Spectral Bandwidth	$\lambda 0.5$	----	400	----	1100	nm
Wavelength of Peak Sensitivity	$\lambda p$	----	---	940	---	nm
Open-Circuit Voltage	VOC	Ee=5mW/cm2 $\lambda p=940nm$	---	0.35	---	v
Short- Circuit Current	ISC	Ee=1mW/cm2 $\lambda p=940nm$	---	12	---	uA
Reverse Light Current	IL	Ee=1mW/cm2 $\lambda p=940nm; VR=5V$	4	12	---	uA
Dark Current	ID	Ee=0mW/cm2 VR=10V	---	5	30	nA
Reverse Breakdown	VBR	Ee=0mW/cm2 IR=100uA	30	170	---	V
Total Capacitance	Ct	Ee=0mW/cm2 VR=3V;f=1MHZ	---	18	---	pF
Rise/Fall Time	tr/tf	VR=10V;RL=1KΩ	---	45/45	---	nS

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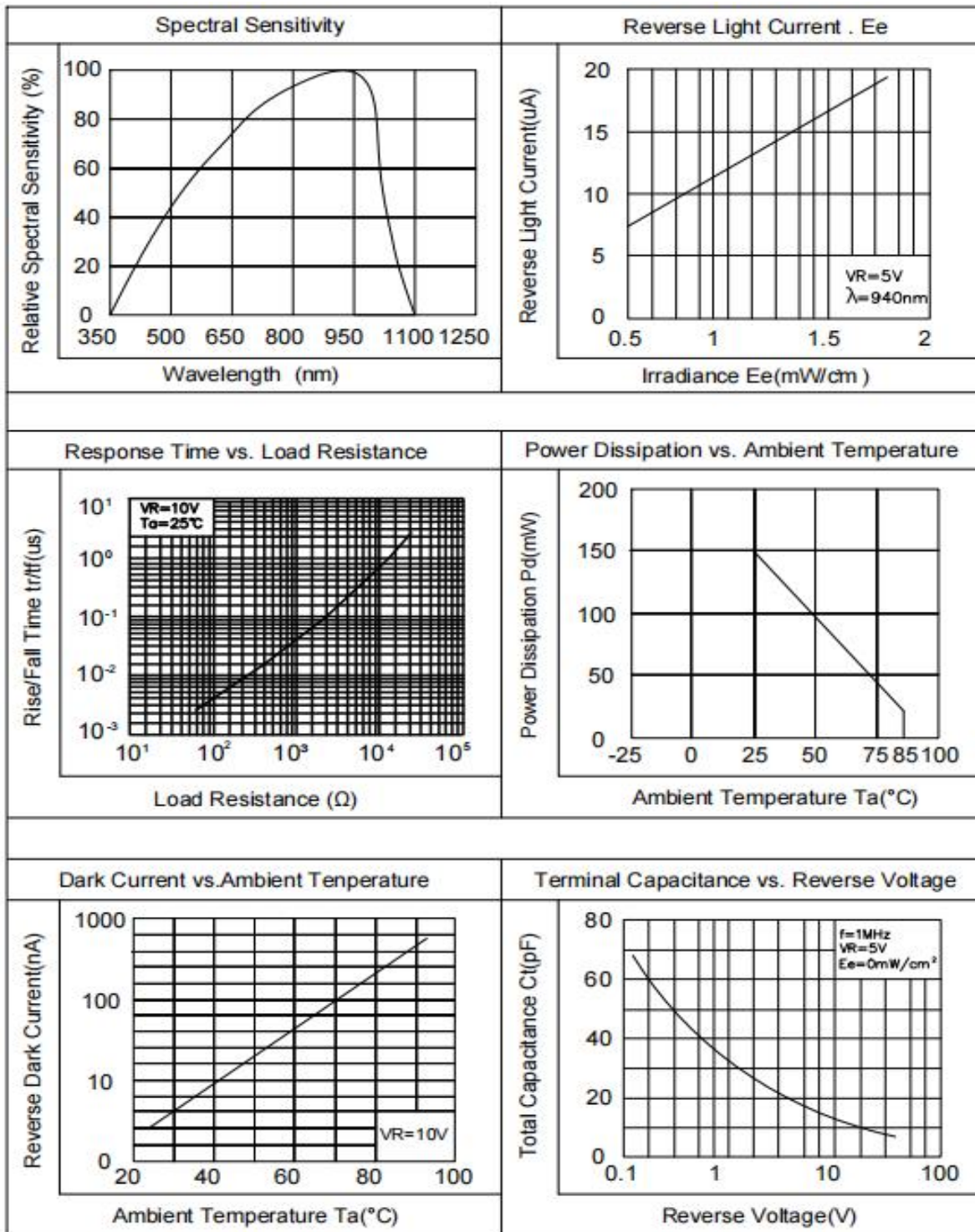
**Specifications for Bin Grading:**

I <sub>L</sub> (uA)		
Grade	Min.	Max.
A	4	10
B	8	13
C	11	16
D	14	21
E	19	26

Notes :Reverse Light Current: +/-15%.

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## Typical Electro-Optical Characteristics Curve



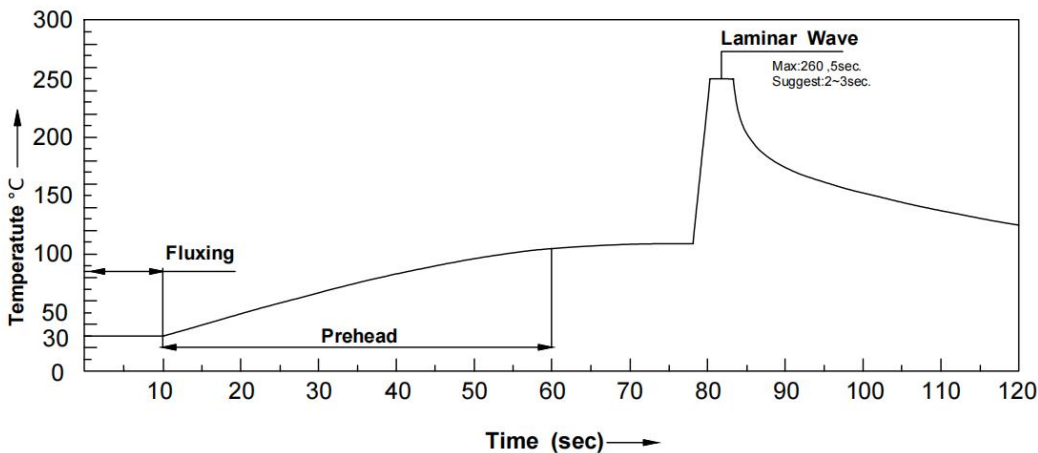
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## Soldering condition

1. Careful attention should be paid during soldering. When soldering, leave more than 2mm from solder joint to Led, and soldering beyond the base of the tie bar is recommended.
2. Avoiding applying any stress to the lead frame while the LED are at high temperature particularly when soldering.
3. Dip and hand soldering should not be done more than one time.
4. After soldering the LED, the epoxy bulb should be protected from mechanical shock or vibration until the LED return to room temperature.
5. A rapid-rate process is not recommended for cooling the LED down from the peak temperature.
6. Although the recommended soldering conditions are specified in the above table, dip or hand soldering at the lowest possible temperature is desirable for the LED.
7. Wave soldering parameter must be set and maintain according to recommended temperature and dwell time in the solder wave.

### • Recommended soldering conditions

Hand Soldering		Wave Soldering	
Temp. at tip of iron	300°C Max. (30W Max.)	Preheat temp.	100°C Max. (60 sec Max.)
Soldering time	3 sec Max.	Bath temp. & time	260°C Max., 5 sec Max
Distance	2mm Min.(From solder joint to Led)	Distance	2mm Min. (From solder joint to Led)



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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	IL ≤ ILt*0.5 or Vf ≥ U or Vf ≤ 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: IL t: To test IL value of the chip before the reliability test.

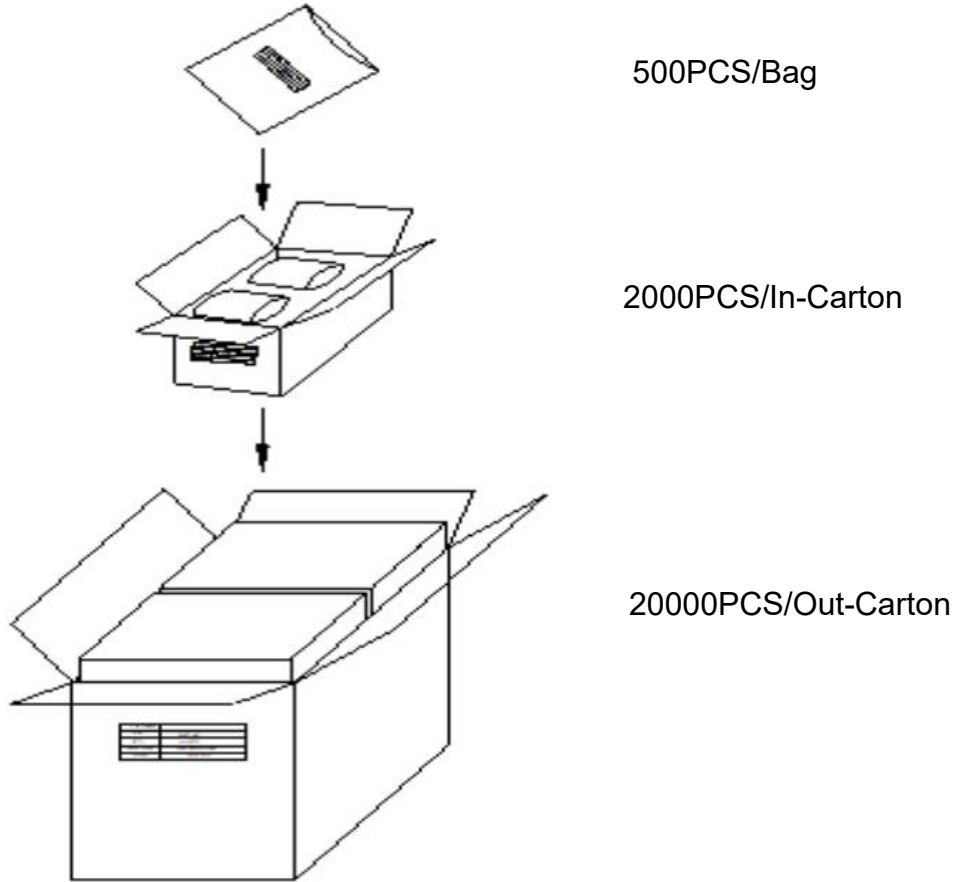
IL : The test value of the chip that has completed the reliability test.

U: Upper Specification Limit.

L: Lower Specification Limit.

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## Packing Specification:



	<b>HARVATEK</b>	
CPN:		<b>RoHs</b>
P/N:		
	<b>HV-1206038C-L50-J0018</b>	
QTY:		CAT:
		HUE:
LOT NO:		REF:

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**Revision History**

Revision	Page	Version No.	Revision Date
Initial Release		1.0	11-15-2022

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