

**Harvatek 4.8x2.5x4.5mm SIDE LOOK PT LED  
HV-1302559B-H2-L2**

Official Product	HV-1302559B-H2-L2	Customer Part No.		Data Sheet No.
	*****	*****		CDAE-040-051
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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 3 0 2 5 5 9 B - H 2 - L 2

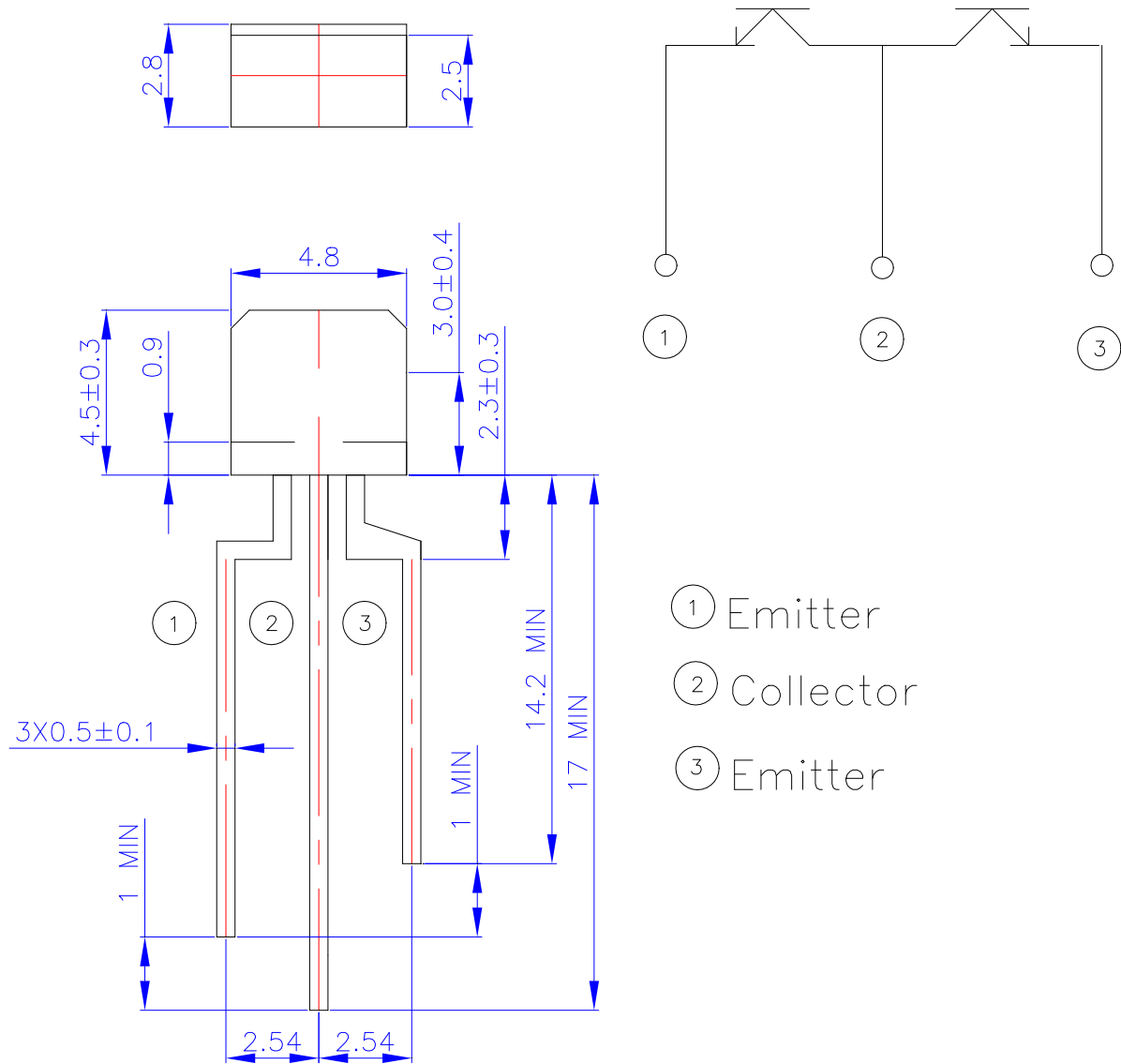
Series Name	Color Code	Remark
HV : HARVATEK	130 : 940 nm Silicon PT Chip 2559: 4.8x2.5x4.5mm Side Look LED. B : Black Transparent. H2-L2:HARVATEK Part No.	

## Features:

- Stable Color
- Popular 4.8x2.5x4.5mm through hole package.
- Black Transparent Lens.

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**Package Dimensions**



**Notes:**

1. All dimensions are millimeters.
2. Tolerance is +/-0.25mm unless otherwise noted.
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**Absolute Maximum Ratings at Ta=25°C**

Parameter	Symbol	Rating	Unit
Collector Current	Ic	20	mA
Operating Temperature	Topr	-40to+85	°C
Storage Temperature	Tstg	-40to+100	°C
Soldering Temperature*1	Tsol	260±5	°C
Power Dissipation	Pd	75	mW
Collector-Emitter Voltage	Vceo	30	V
Emitter-Collector Voltage	Veco	5	V

\*1: Soldering time ≅ 5 seconds.

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**Electrical and Optical Characteristic**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
On State Collector Current	$I_{C(on)}$	$V_{ce}=5V$ $E_e=0.555mW/cm^2$	129	/	1085	$\mu A$
Collector Dark Current	$I_d$	$V_{ce}=20V$	/	/	100	nA
Collector – Emitter Breakdown Voltage	$BV_{ceo}$	$I_c=100\mu A$	30	/	/	V
Emitter-Collector Breakdown Voltage	$B V_{eco}$	$I_e=100\mu A$	5	/	/	V
Collector-Emitter Saturation Voltage	$V_{ce(sat)}$	$I_c=0.5mA$ $I_F=20 mA$	/	/	0.4	V
Peak Wavelength	$\lambda_p$	/	/	940	/	nm
Rang of Spectral Bandwidth	$\Delta\lambda$	/	760	940	1100	nm

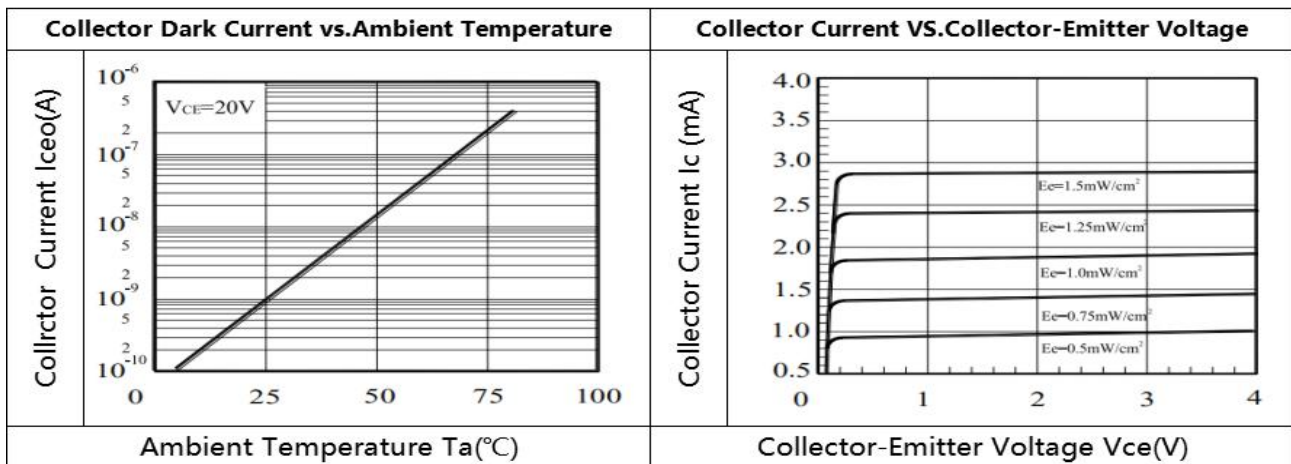
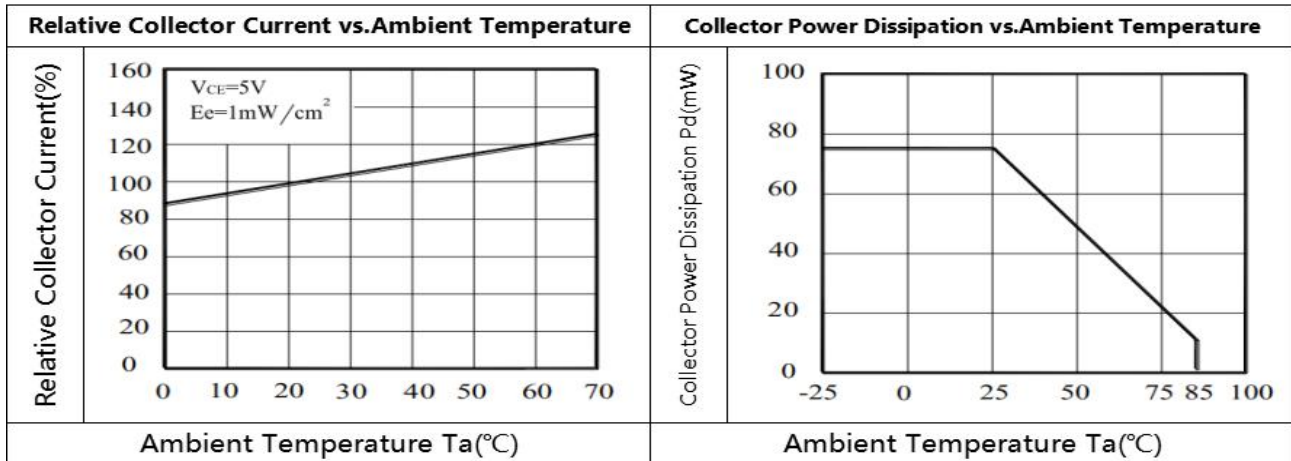
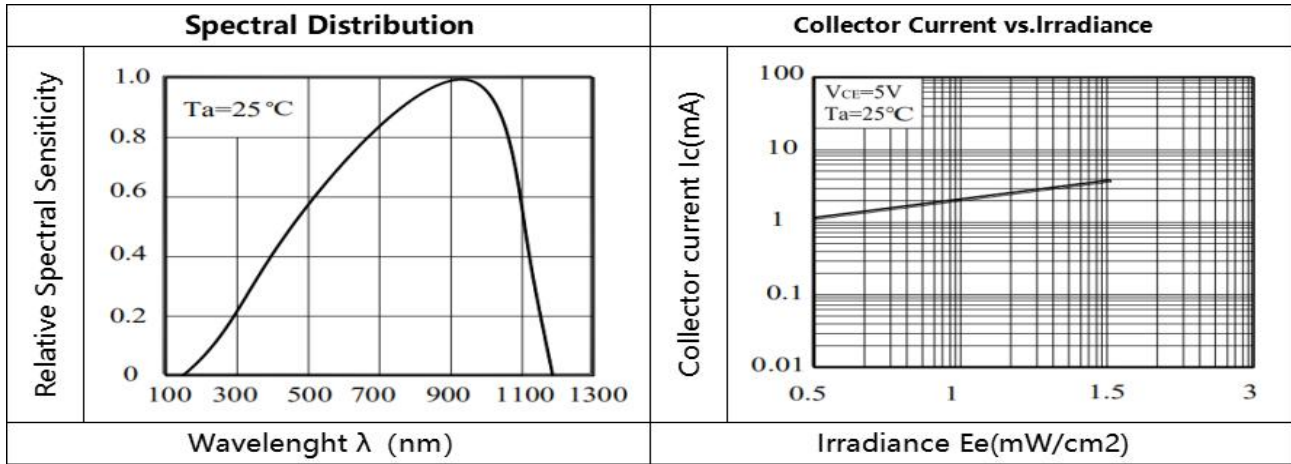
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**Specifications for Bin Grading:**

Ic(mA)		
Grade	Min.	Max.
A1	0.129	0.25
A2	0.17	0.322
A3	0.242	0.384
A4	0.304	0.458
A5	0.378	0.532
A6	0.452	0.607
A7	0.527	0.682
A8	0.602	0.767
A9	0.767	0.843
A10	0.763	0.916
A11	0.836	0.987
A12	0.907	1.085

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## Typical Electro-Optical Characteristics Curves



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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	$I_v \cong I_{vt} * 0.5$ or $V_f \cong U$ or $V_f \cong L$	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:  $I_{vt}$ : To test  $I_v$  value of the chip before the reliability test.

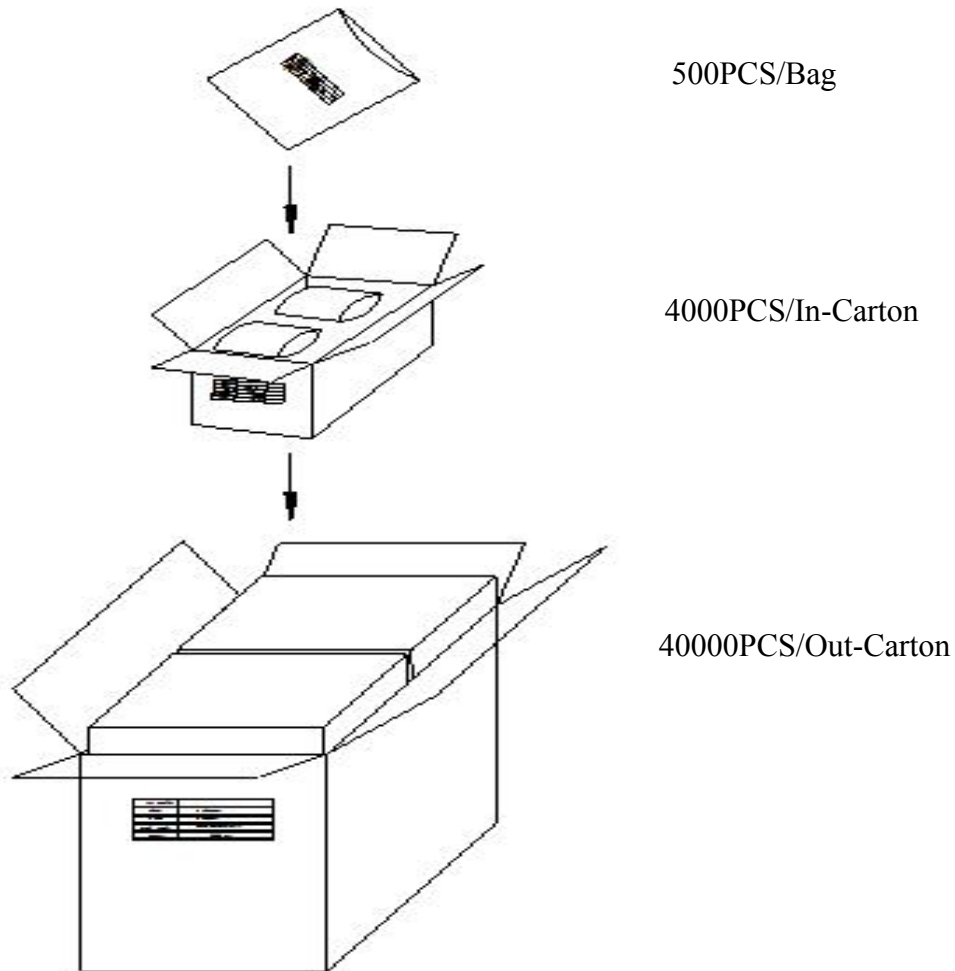
$I_v$ : The test value of the chip that has completed the reliability test

U: Upper Specification Limit

L: Lower Specification Limit

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## Packing Specification:



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**Revision History**

<b>Revision</b>	<b>Page</b>	<b>Version No.</b>	<b>Revision Date</b>
Initial Release		1.0	09-19-2018
Modifies Electrical and Optical Characteristic	6	1.1	11-11-2019

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