

**Harvatek 5.0mm ROUND Photo Transistor LED LAMP**  
**HV-1305A82B**

Official Product	HV-1305A82B	Customer Part No.		Data Sheet No.
	*****	*****		CDAE-010-705
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Nov. 06 2019	Version of 1.0	Page 1/10

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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 - 13 0 5A8 2 B



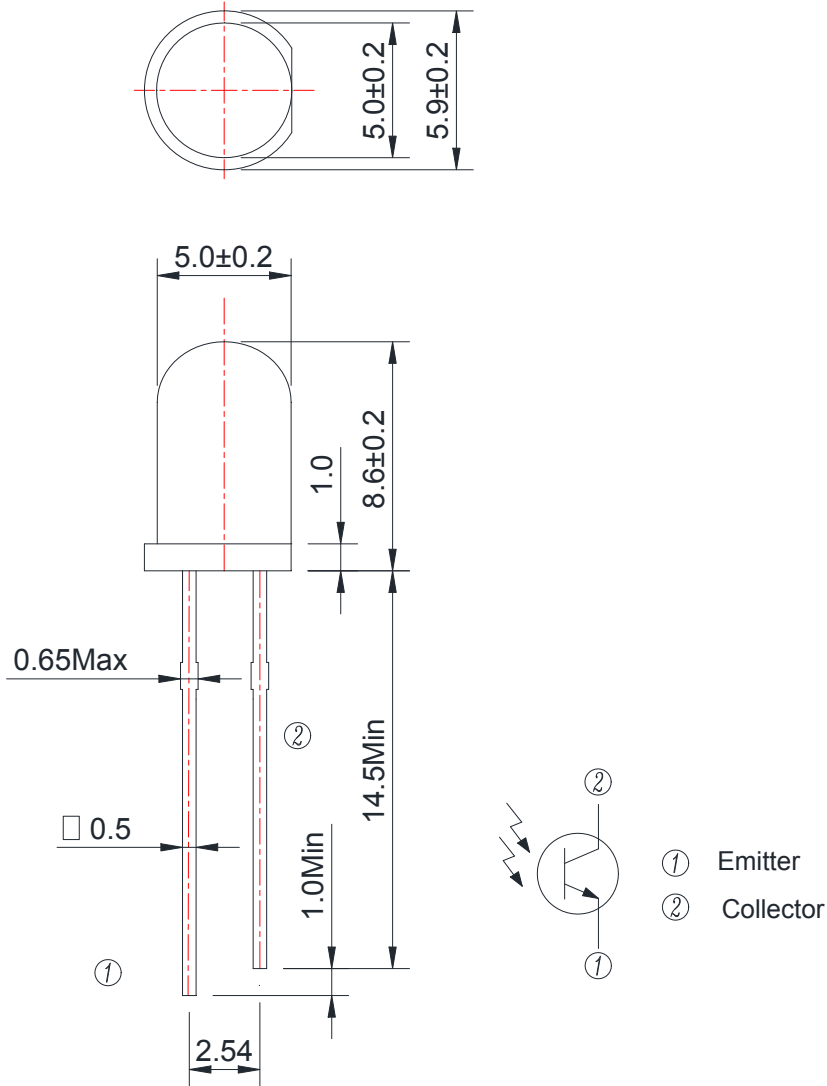
Series Name	Color Code	Remark
HV : HARVATEK	130: 940nm Silicon PT Chip. 5A82: 5.0mm Round Lamp, 8.6mm Lens B : Black Transparent.	

**Features:**

- Stable Color
- Popular 5.0mm Round Type Photo diode, 8.6mm lens height
- Black Transparent 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	Unit
Collector Current	Ic	20	mA
Operating Temperature	Topr	-25to+85	°C
Storage Temperature	Tstg	-25to+85	°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

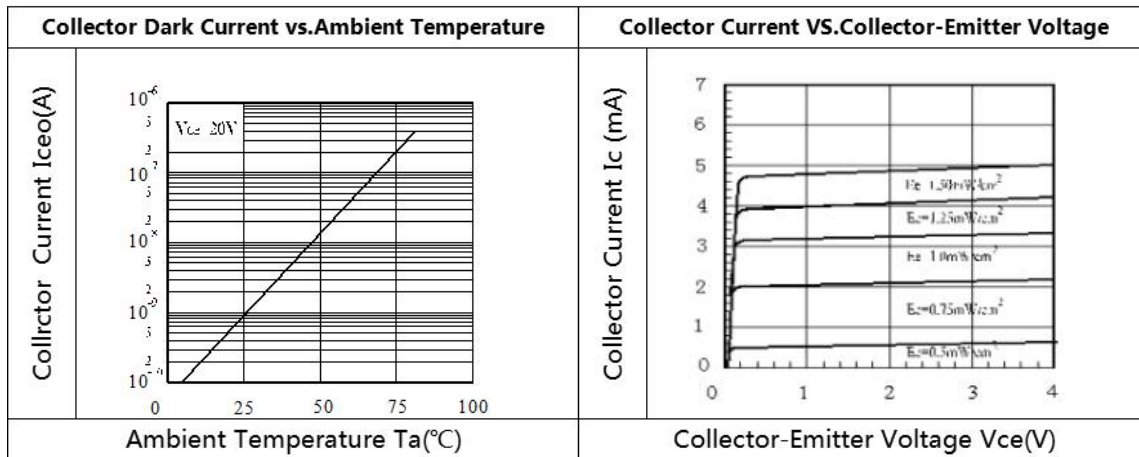
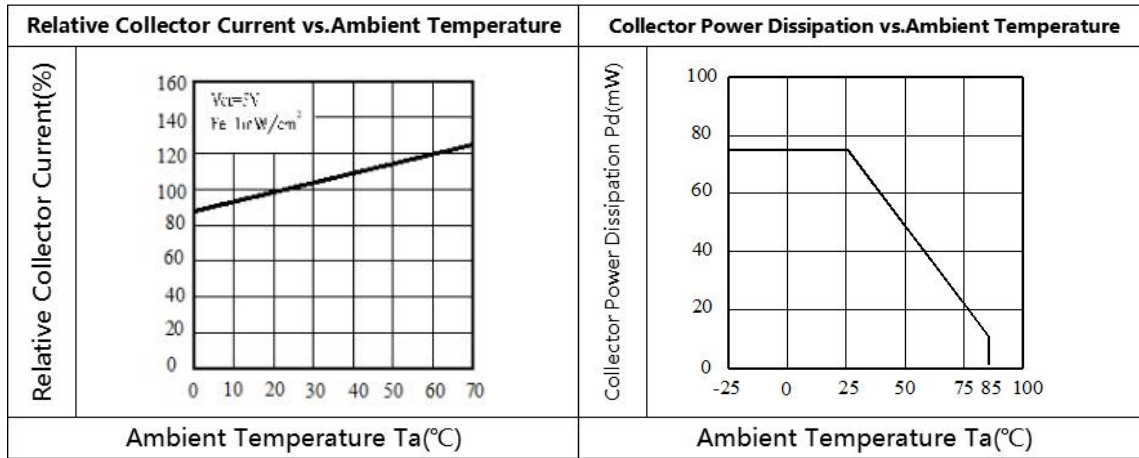
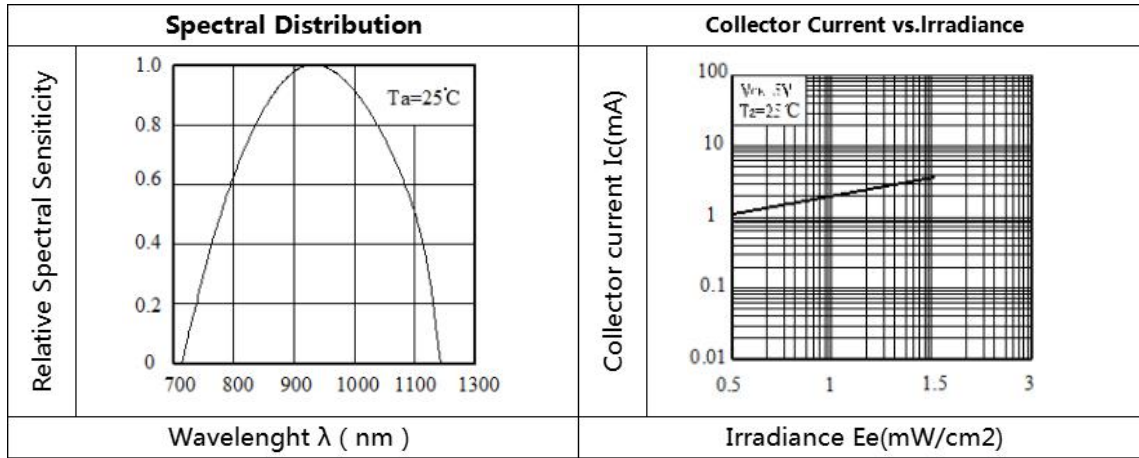
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
On State Collector Current	IC(on)	Vce=5V Ee=1mW/cm <sup>2</sup>	/	7.07	/	mA
Collector Dark Current	Id	Vce=20V	/	/	100	nA
Collector – Emitter Breakdown Voltage	BVceo	Ic=100uA	30	/	/	V
Emitter-Collector Breakdown Voltage	B Veco	Ie=100uA	5	/	/	V
Collector-Emitter Saturation Voltage	Vce(sat)	Ic=0.5mA IF=20 mA	/	/	0.4	V
Peak Wavelength	λp	/	/	940	/	nm
Rang of Spectral Bandwidth	Δλ	/	760	/	1100	nm
Rise Time	t <sub>r</sub>	V <sub>CE</sub> =5V I <sub>C</sub> =1mA R <sub>L</sub> =1000Ω	/	15	/	μS
Fall Time	t <sub>f</sub>		/	15	/	μS

## Specifications for Bin Grading:

I <sub>c</sub> (mA)		
Grade	Min.	Max.
L	3.36	7.80
M	5.20	10.8

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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	$I_v \leq I_{vt} * 0.5$ or $V_f \geq U$ 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:  $I_{vt}$ : 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

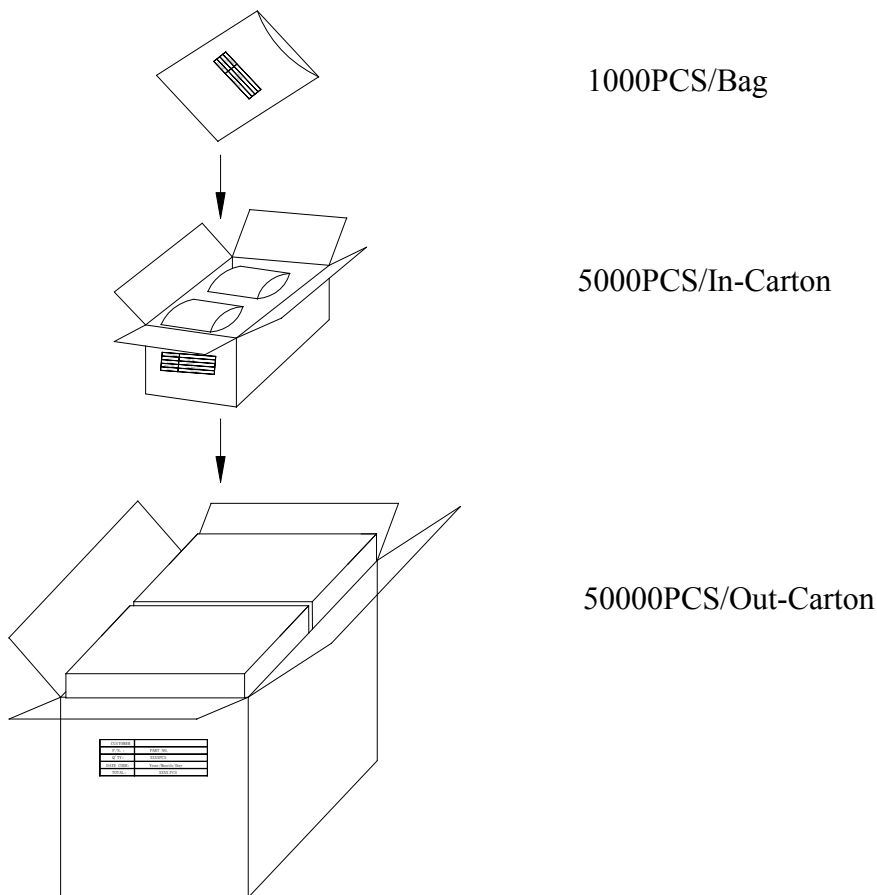
U: Upper Specification Limit

L: Lower Specification Limit

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## Packing Specification:



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**Revision History**

Revision	Page	Version No.	Revision Date
Initial Release		1.0	11-06-2019

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