

**Harvatek 5.0mm Round PT LED LAMP****HV-1303303B**

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Official Product	HV-1303303B	Customer Part No.	Data Sheet No.
	*****	*****	CDAE-010-688
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Nov. 05 2019	Version of 1.0	Page 1/11

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## **LIFE SUPPORT POLICY**

HARVATEK's products are not authorized for use as critical components in life support devices or systems without the express written approval of the President of HARVATEK or HARVATEK INTERNATIONAL. As used herein:

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

**HV - 130 3303 B**

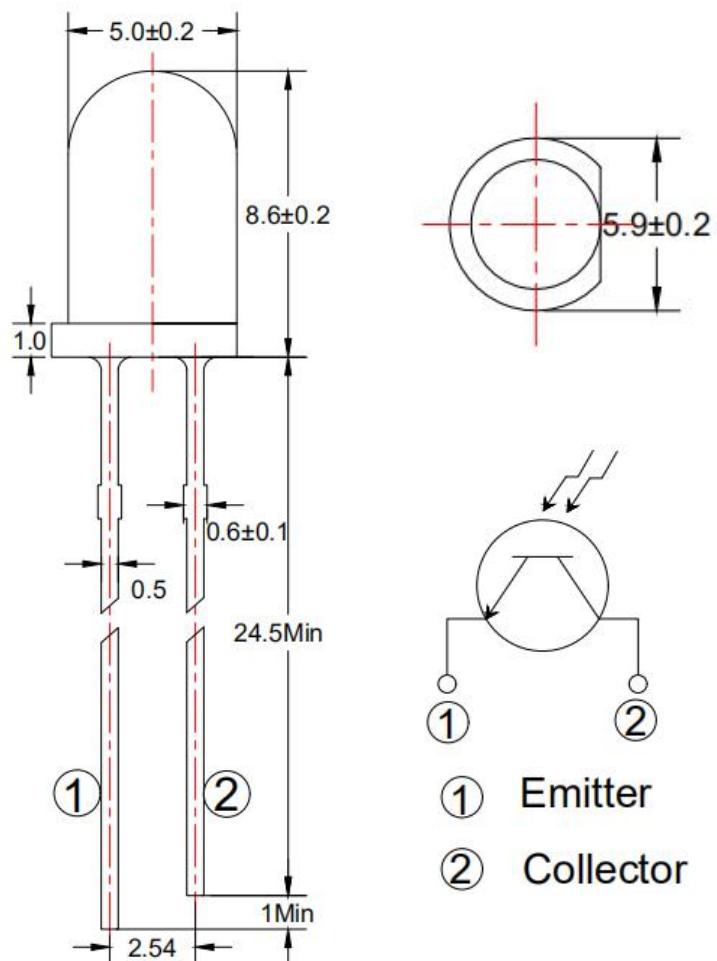


Series Name	Color Code	Remark
<b>HV :</b> <b>HARVATEK</b>	<b>130:</b> <b>840-1100nm Silicon PT Chip.</b> <b>3303:</b> <b>5.0mm Round Lamp, 8.6mm Lens</b> <b>B :</b> <b>Black.</b>	

## Features:

- Stable Color
- Popular 5.0mm through hole package, 8.6mm lens height.
- Black 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	I <sub>C</sub>	20	mA
Operating Temperature	T <sub>opr</sub>	-40to+85	°C
Storage Temperature	T <sub>stg</sub>	-40to+100	°C
Soldering Temperature*1	T <sub>sol</sub>	260±5	°C
Power Dissipation	P <sub>d</sub>	75	mW
Collector-Emitter Voltage	V <sub>ceo</sub>	30	V
Emitter-Collector Voltage	V <sub>ceo</sub>	5	V

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

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**Electrical and Optical Characteristic**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
On State Collector Current	$I_{C(on)}$	$V_{ce}=5V$ $E_e=0.555mW/cm^2$	0.70	3.0	/	uA
Collector Dark Current	$I_d$	$V_{ce}=20V$	/	/	100	nA
Collector – Emitter Breakdown Voltage	$BV_{ceo}$	$I_c=100uA$	30	/	/	V
Emitter-Collector Breakdown Voltage	$B\ Veco$	$I_e=100uA$	5	/	/	V
Collector-Emitter Saturation Voltage	$V_{ce(sat)}$	$I_c=0.5mA$ $I_F=20\text{ mA}$	/	/	0.4	V
Peak Wavelength	$\lambda_p$	/	/	940	/	nm
Rang of Spectral Bandwidth	$\lambda_{0.5}$	/	840	/	1100	nm
Rise Time	$t_r$	$V_{CE}=5V$ $I_c=1mA$	/	15	/	$\mu S$
Fall Time	$t_f$	$R_L=1000\Omega$	/	15	/	$\mu S$

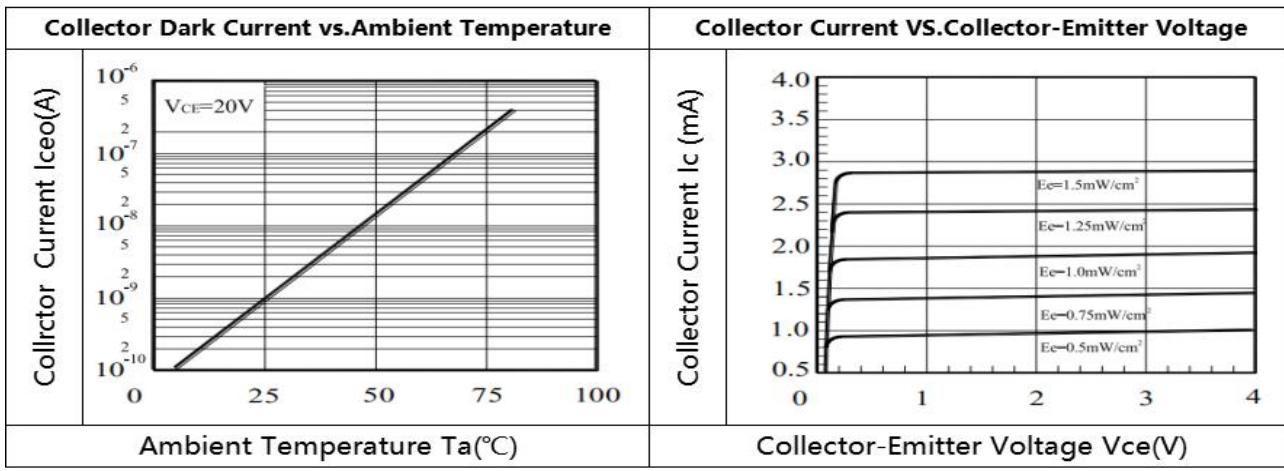
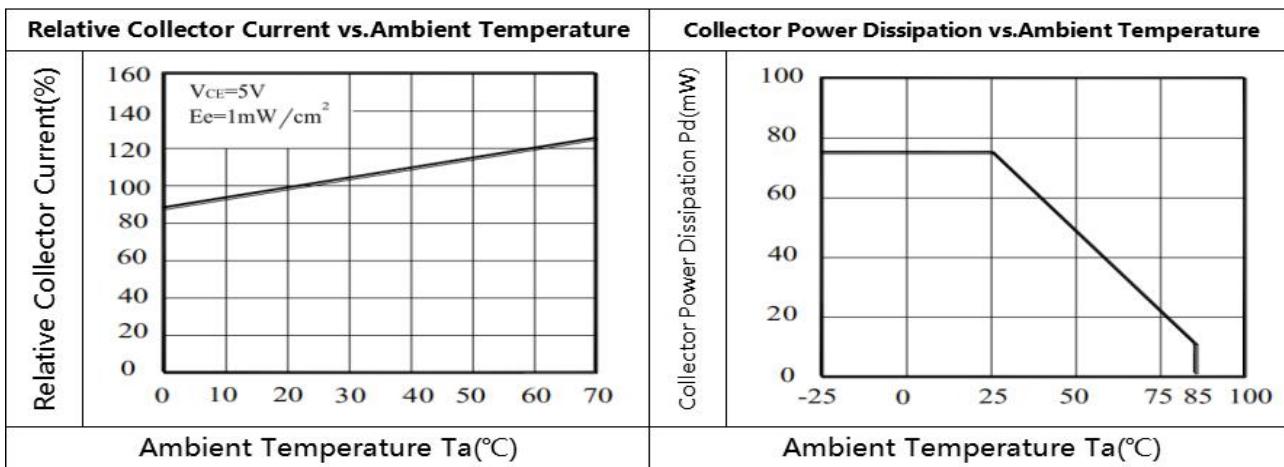
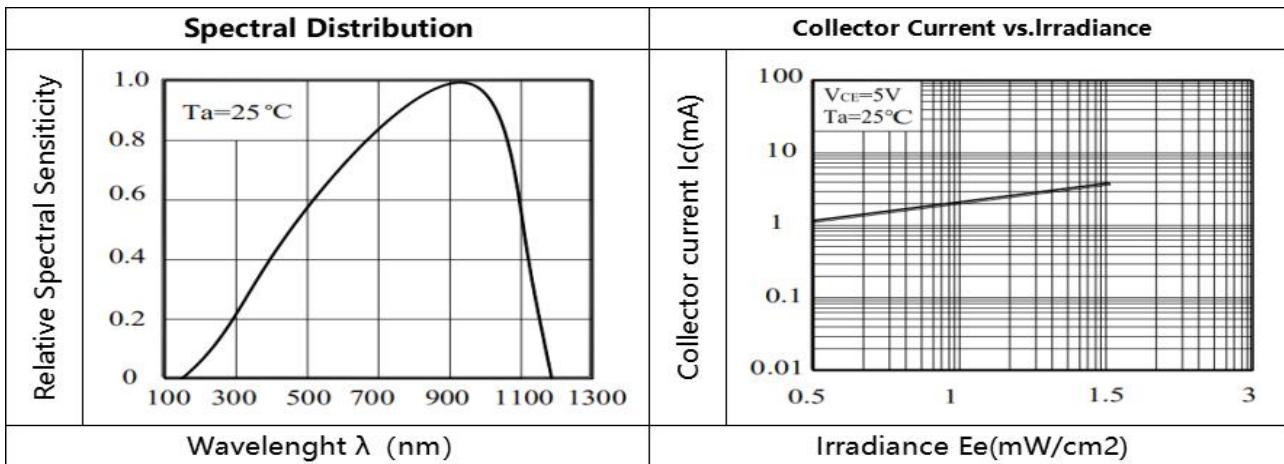
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**Specifications for Bin Grading:**

Ic(uA)		
Grade	Min.	Max.
G	0. 7	1. 9
H	1. 14	2. 6
J	1. 77	3. 61
K	2. 67	5. 07
L	4. 18	7. 07
M	5. 68	8. 48
N	7. 18	9. 98
P	8. 68	11. 5

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## Typical Electro-Optical Characteristics Curve



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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	Iv $\leq$ Ivt*0.5 or Vf $\geq$ U or Vf $\leq$ L	0/1
2	Temperature Cycle	H:+100°C 15min L:-40°C 15min	300 CYCLES	76 PCS		0/1
3	Thermal Shock	H:+100°C 5min 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

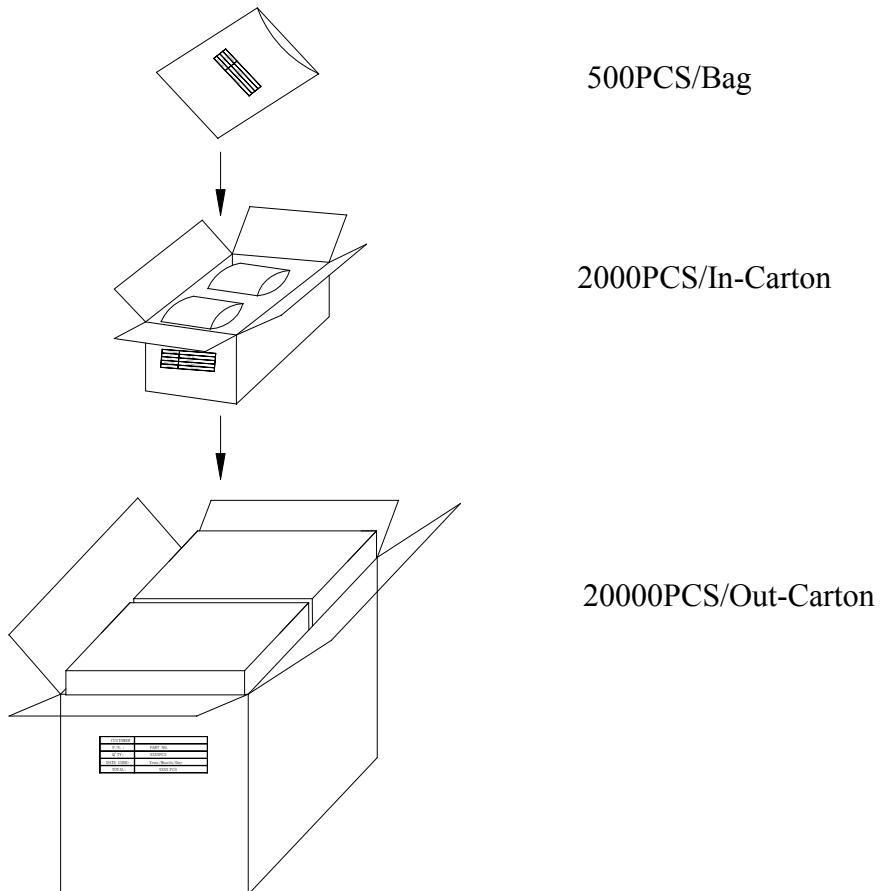
Note: Ivt: To test Iv value of the chip before the reliability test.

Iv: 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

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