

Harvatek 3.0mm ROUND Photo Transistor LED LAMP
HV-1303A52B

Official Product	HV-1303A52B	Customer Part No.		Data Sheet No.
	*****	*****		CDAE-010-704
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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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 3A5 2 B



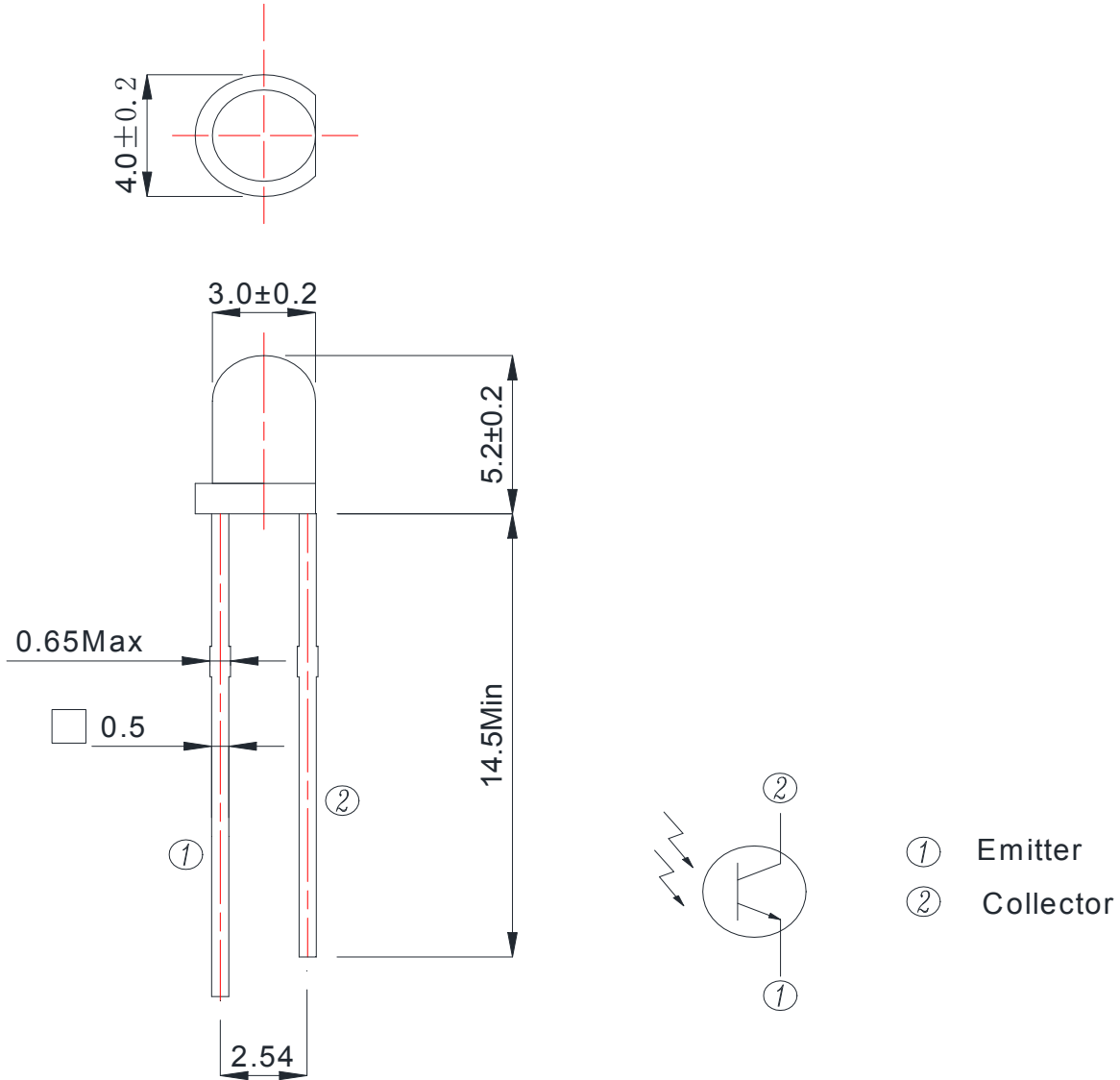
Series Name	Color Code	Remark
HV : HARVATEK	130: 940nm Silicon PT Chip. 3A52: 3.0mm Round Lamp, 5.2mm Lens B : Black Transparent.	

Features:

- Stable Color
- Popular 3.0mm Round Type Photo diode, 5.2mm lens height
- Black Transparent Lens.

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Package Dimensions:



Notes:

- 1.All dimensions are millimeters.
- 2.Tolerance is +/-0.25mm unless otherwise noted.
- 3.Specifications are subject to change without notice.

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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

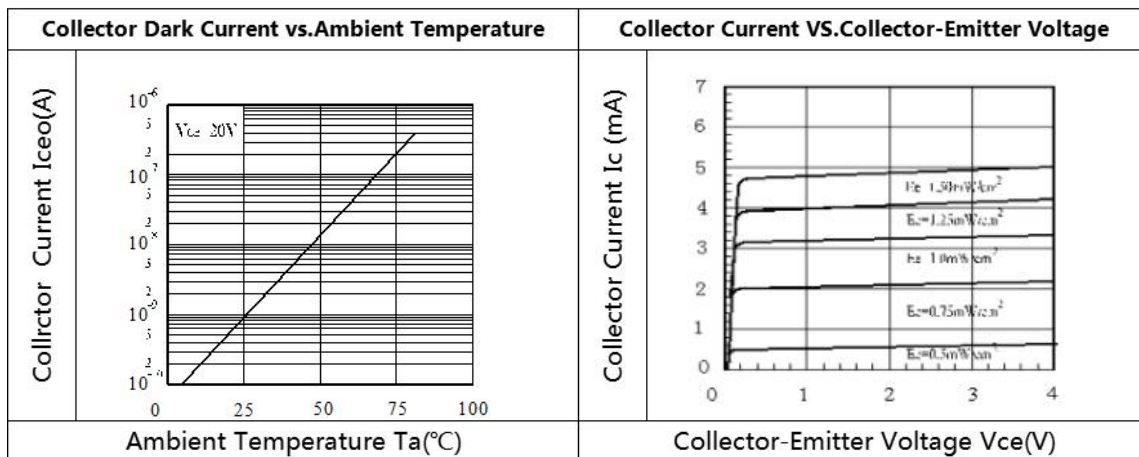
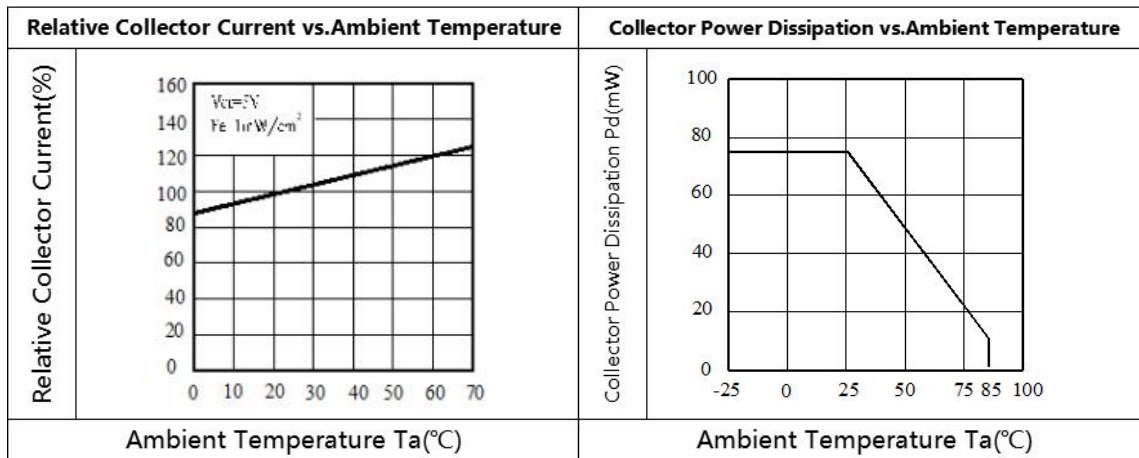
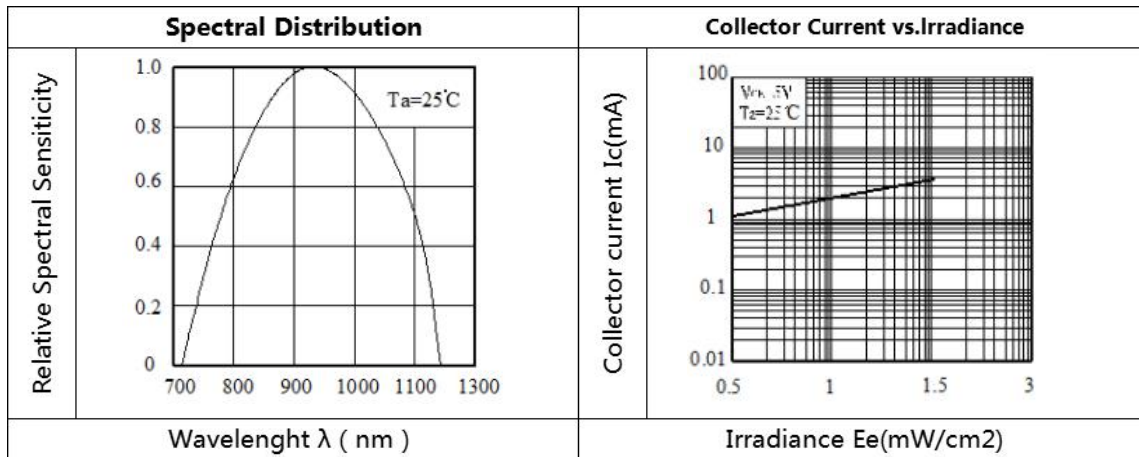
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
On State Collector Current	$I_{C(on)}$	$V_{ce}=5V$ $E_e=1mW/cm^2$	/	3.50	/	mA
Collector Dark Current	I_d	$V_{ce}=20V$	/	/	100	nA
Collector – Emitter Breakdown Voltage	BV_{ceo}	$I_c=100\mu A$	30	/	/	V
Emitter-Collector Breakdown Voltage	BV_{eco}	$I_e=100\mu A$	5	/	/	V
Collector-Emitter Saturation Voltage	$V_{ce(sat)}$	$I_c=0.5mA$ $I_F=20 mA$	/	/	0.4	V
Peak Wavelength	λ_p	/	/	940	/	nm
Rang of Spectral Bandwidth	$\Delta\lambda$	/	760	/	1100	nm
Rise Time	t_r	$V_{CE}=5V$ $I_C=1mA$ $R_L=1000\Omega$	/	15	/	μS
Fall Time	t_f		/	15	/	μS

Specifications for Bin Grading:

I_c (mA)		
Grade	Min.	Max.
K	2.36	5.04
L	3.36	7.80
M	5.2	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.

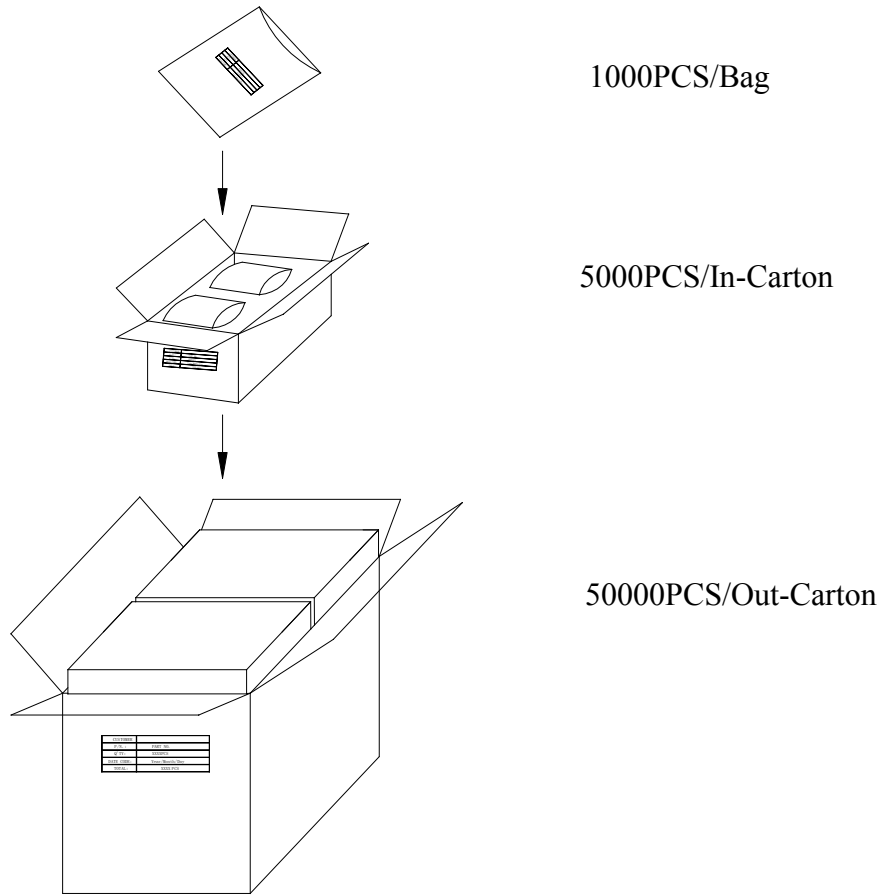
I_v : The test value of the chip that has completed the reliability test

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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