

Harvatek 3.0mm Round PT LED LAMP**HV-1302004B-L50**

Official Product	HV-1302004B-L50 *****	Customer Part No. *****	Data Sheet No. CDAE-010-687
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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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.

Official Product	HV-1302004B-L50 *****	Customer Part No. *****	Data Sheet No. CDAE-010-687
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Compliance and Certification

ISO9002, QS9000 and ISO14001 Certified

RoHS Compliant



Orderable Information

HV - 130 2004 B - L50

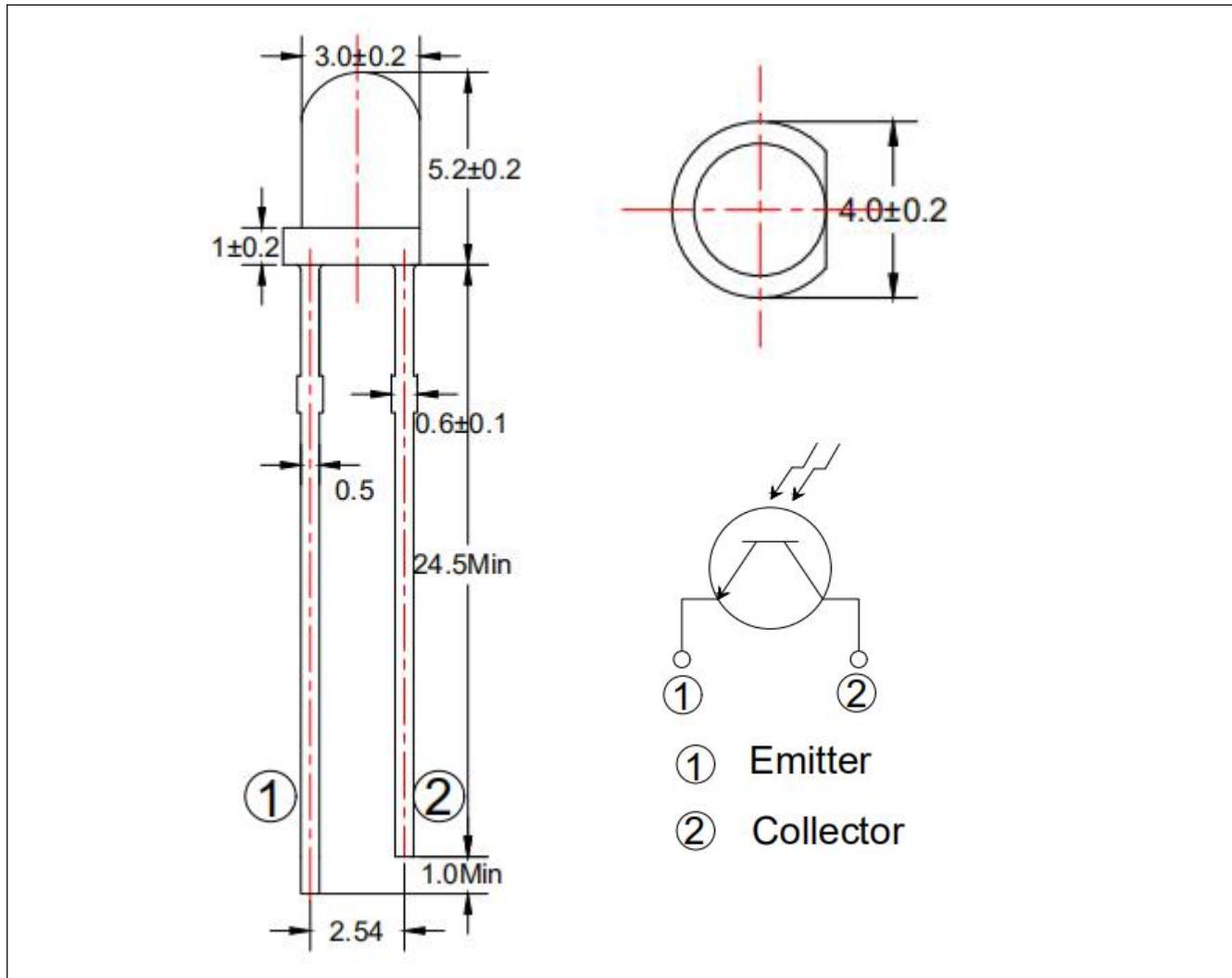


Series Name	Color Code	Remark
HV : HARVATEK	130: 840-1100nm Silicon PT Chip. 2004: 3.0mm Round Lamp, 5.2mm Lens B : Black. L50: HARVATEK Part No.	

Features:

- Stable Color
- Popular 5.0mm through hole package, 8.6mm lens height.
- Black lens.

Official Product	HV-1302004B-L50 *****	Customer Part No. *****	Data Sheet No. CDAE-010-687
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Package Dimensions:**Notes:**

1. All dimensions are millimeters.
2. Tolerance is ± 0.25 mm unless otherwise noted.
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Official Product	HV-1302004B-L50	Customer Part No.	Data Sheet No.
	*****	*****	CDAE-010-687
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Nov. 05 2019	Version of 1.0	Page 4/11

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Collector Current	I _C	20	mA
Operating Temperature	T _{opr}	-40to+85	°C
Storage Temperature	T _{stg}	-40to+100	°C
Soldering Temperature*1	T _{sol}	260±5	°C
Power Dissipation	P _d	75	mW
Collector-Emitter Voltage	V _{ceo}	30	V
Emitter-Collector Voltage	V _{ceo}	5	V

*1:Soldering time \leq 5 seconds.

Official Product	HV-1302004B-L50 *****	Customer Part No. *****	Data Sheet No. CDAE-010-687
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Nov. 05 2019	Version of 1.0	Page 5/11

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	2.0	/	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	λ_p	/	/	940	/	nm
Rang of Spectral Bandwidth	$\lambda_{0.5}$	/	840	/	1100	nm
Rise Time	t_r	$V_{CE}=5V$ $I_c=1mA$	/	15	/	μS
Fall Time	t_f	$R_L=1000\Omega$	/	15	/	μS

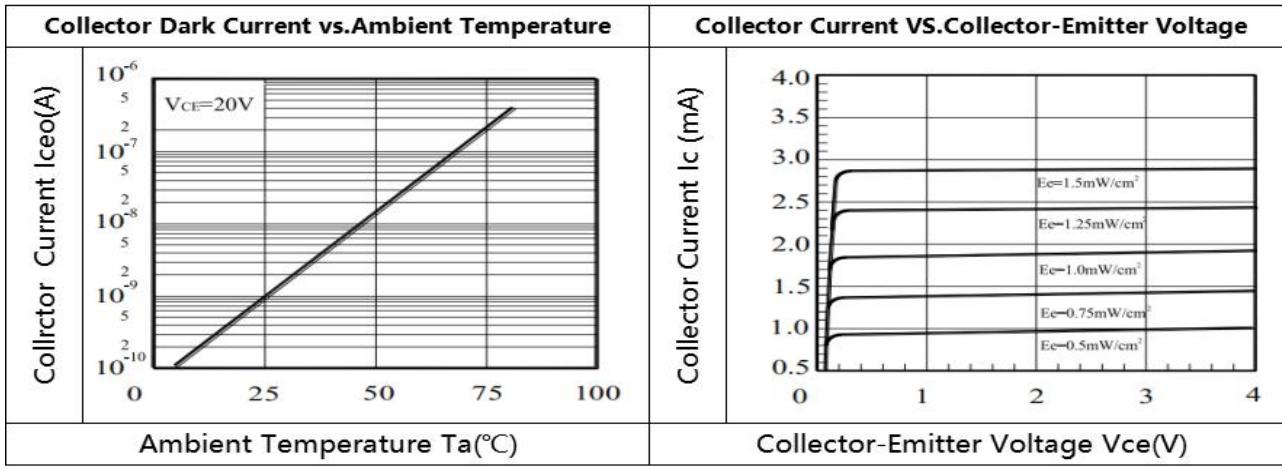
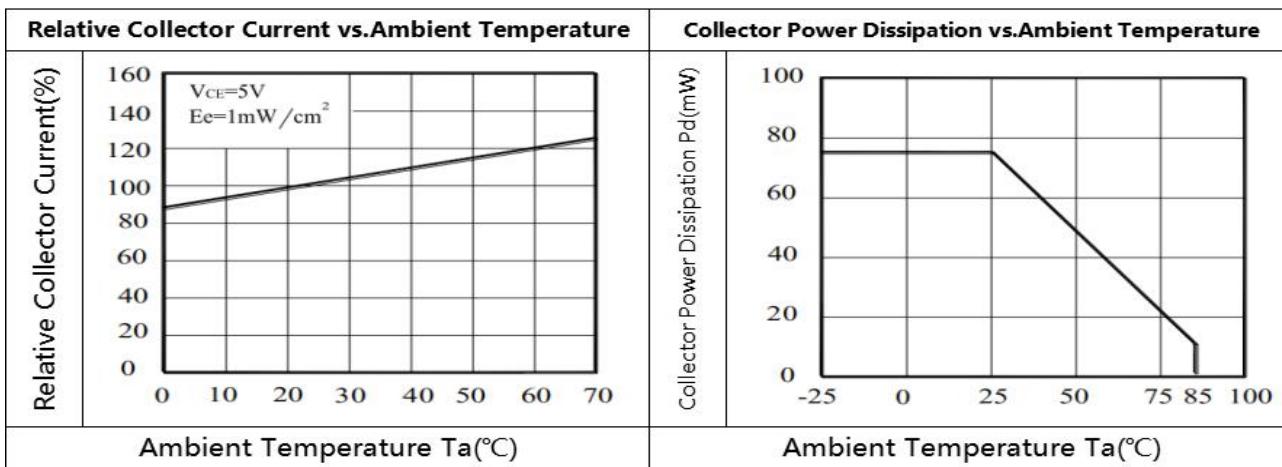
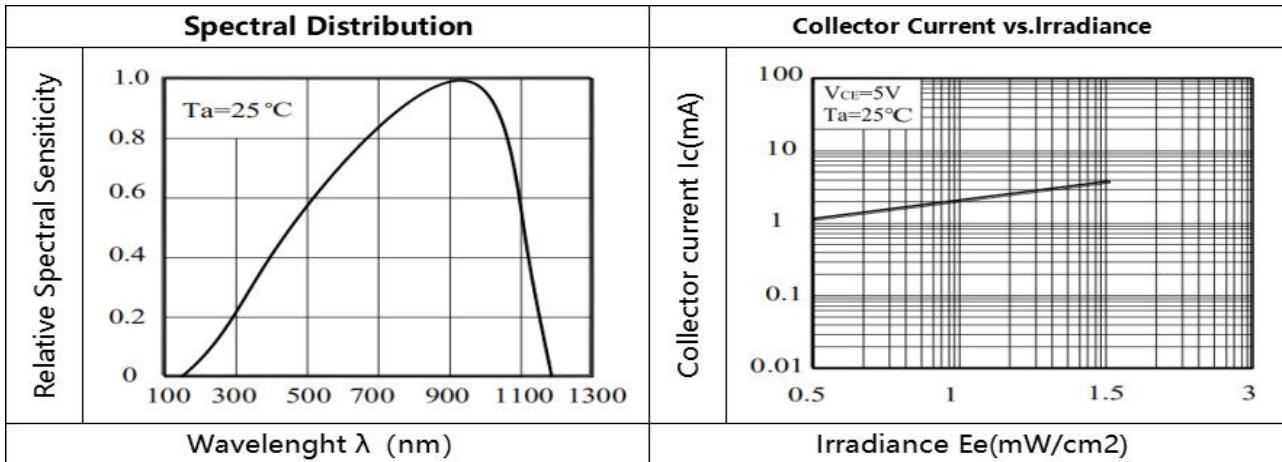
Official Product	HV-1302004B-L50	Customer Part No.	Data Sheet No.
	*****	*****	CDAE-010-687
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Nov. 05 2019	Version of 1.0	Page 6/11

Specifications for Bin Grading:

Ic(mA)		
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

Official Product	HV-1302004B-L50 *****	Customer Part No. *****	Data Sheet No. CDAE-010-687
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Nov. 05 2019	Version of 1.0	Page 7/11

Typical Electro-Optical Characteristics Curves



Official Product	HV-1302004B-L50 *****	Customer Part No.	Data Sheet No.
		*****	CDAE-010-687
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Nov. 05 2019	Version of 1.0	Page 8/11

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

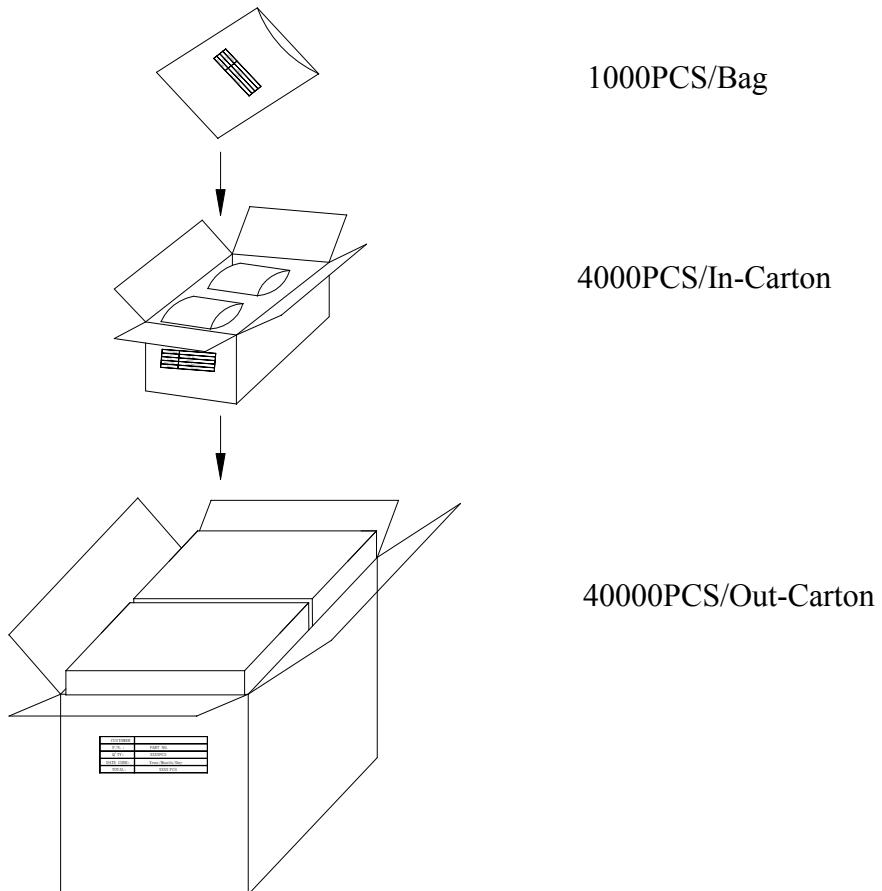
Note: Ivt: To test Iv value of the chip before the reliability test.

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

U: Upper Specification Limit

L: Lower Specification Limit

Official Product	HV-1302004B-L50	Customer Part No.	Data Sheet No.
	*****	*****	CDAE-010-687
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Nov. 05 2019	Version of 1.0	Page 9/11

Packing Specification:

Official Product	HV-1302004B-L50	Customer Part No.	Data Sheet No.
	*****	*****	CDAE-010-687
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Nov. 05 2019	Version of 1.0	Page 10/11

Revision History

Official Product	HV-1302004B-L50	Customer Part No.	Data Sheet No.
	*****	*****	CDAE-010-687
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Nov. 05 2019	Version of 1.0	Page 11/11