

**Harvatek 3.0mm Round LED LAMP****HV-52G2004C-L52**

Official Product	HV-52G2004C-L52	Customer Part No.		Data Sheet No.
	*****	*****		CDAE-010-878
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		May.29 2020	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

**H V - 52 G 2004 C - L52**

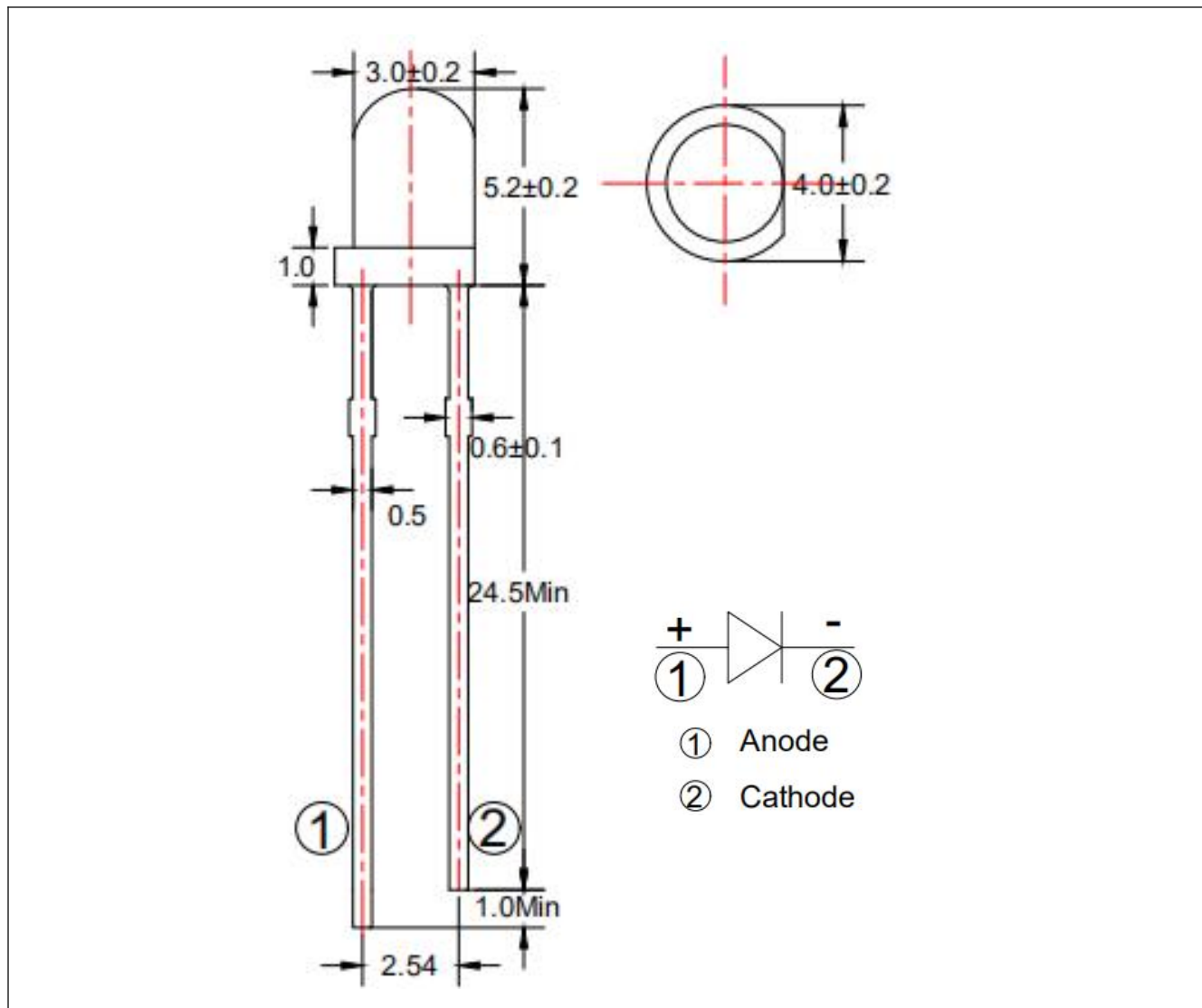
Series Name	Color Code	Remark
HV : HARVATEK	52G2004: 3.0mm Round LED LAMP,5.2mm Lens. InGaN 522nm Green Chip C : Water Clear L52:HARVATEK Part No.	

## Features:

- Stable Color
- Popular 3.0mm through hole package, 5.2mm lens height.
- Water Clear 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
Forward Current	I <sub>F</sub>	30	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>	100	mW
Reverse Voltage	V <sub>R</sub>	5	V
Peak Forward Current*2	I <sub>FP</sub>	0.1	A

\*1:Soldering time  $\leq$  5 seconds. \*2.Pulse Width  $\leq$  100  $\mu$ s and Duty  $\leq$  1%.

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## Electrical and Optical Characteristic

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$	$I_F=20\text{ mA}$	/	3.0	3.5	V
Reverse Current	$I_R$	$V_R=5\text{ V}$	/	/	10	$\mu\text{A}$
Luminous Intensity	$I_V$	$I_F=20\text{ mA}$	3900	12000	/	med
Viewing Angle	$2\theta_{1/2}$	$I_F=20\text{ mA}$	/	30	/	deg
Dominant Wavelength	$\lambda_d$	$I_F=20\text{ mA}$	516	520	/	nm
Peak Wavelength	$\lambda_p$	$I_F=20\text{ mA}$	510	515	/	nm
Spectrum Radiation Bandwidth	$\Delta\lambda$	$I_F=20\text{ mA}$	/	30	/	nm

Notes:  $\theta_{1/2}$  is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

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**Specifications for Bin Grading:**

I <sub>v</sub> (mcd)		
Grade	Min.	Max.
Z	3900	8500
Z1	6700	12000
Z2	10000	18000

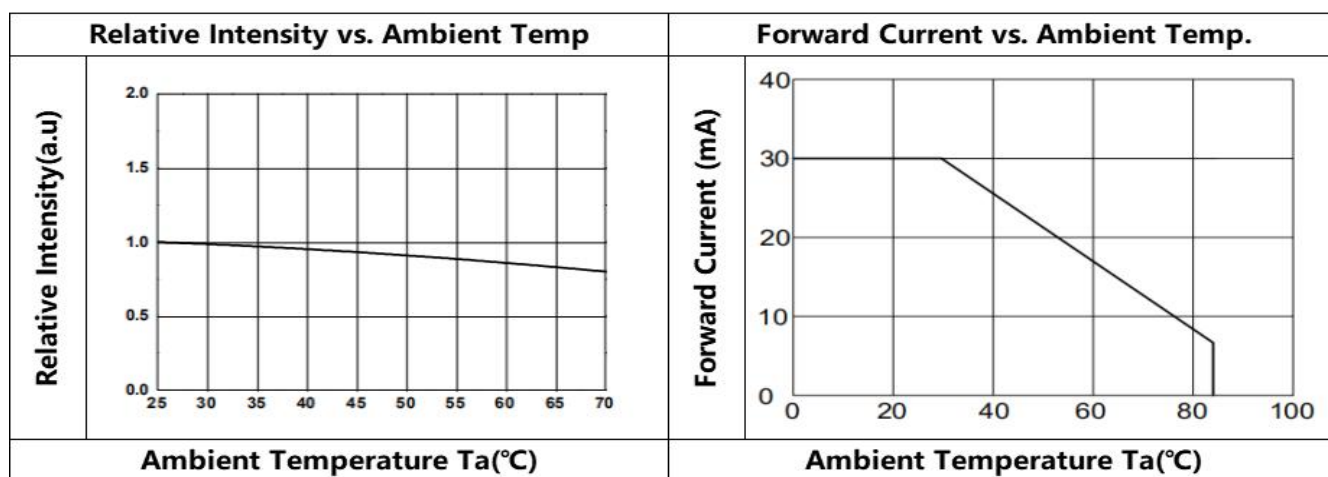
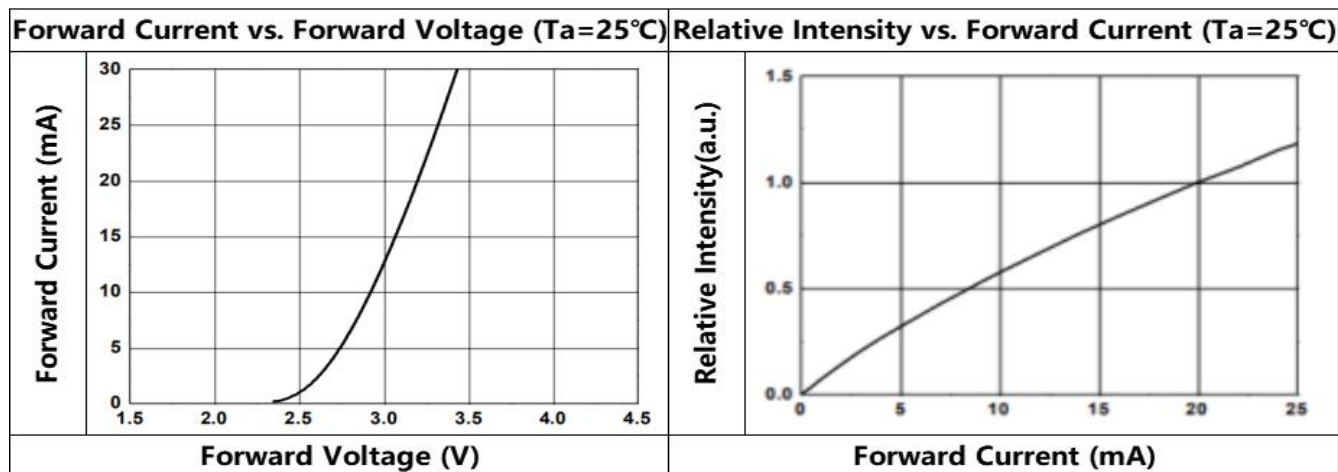
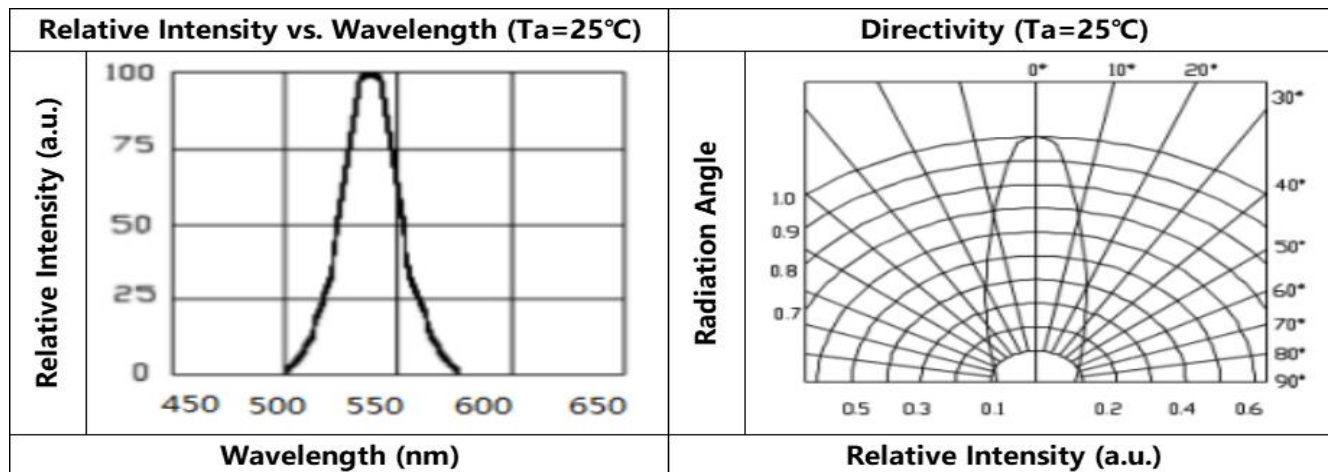
λ <sub>d</sub> (nm)		
Grade	Min.	Max.
1	516.0	519.5
2	518.5	521.5
3	520.5	523.5
4	522.5	525.5

**Notes:**

- 1.Luminous intensity: +/-15%.
- 2.Wavelength: +/-1nm.

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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<sub>vt</sub>: To test I<sub>v</sub> value of the chip before the reliability test.

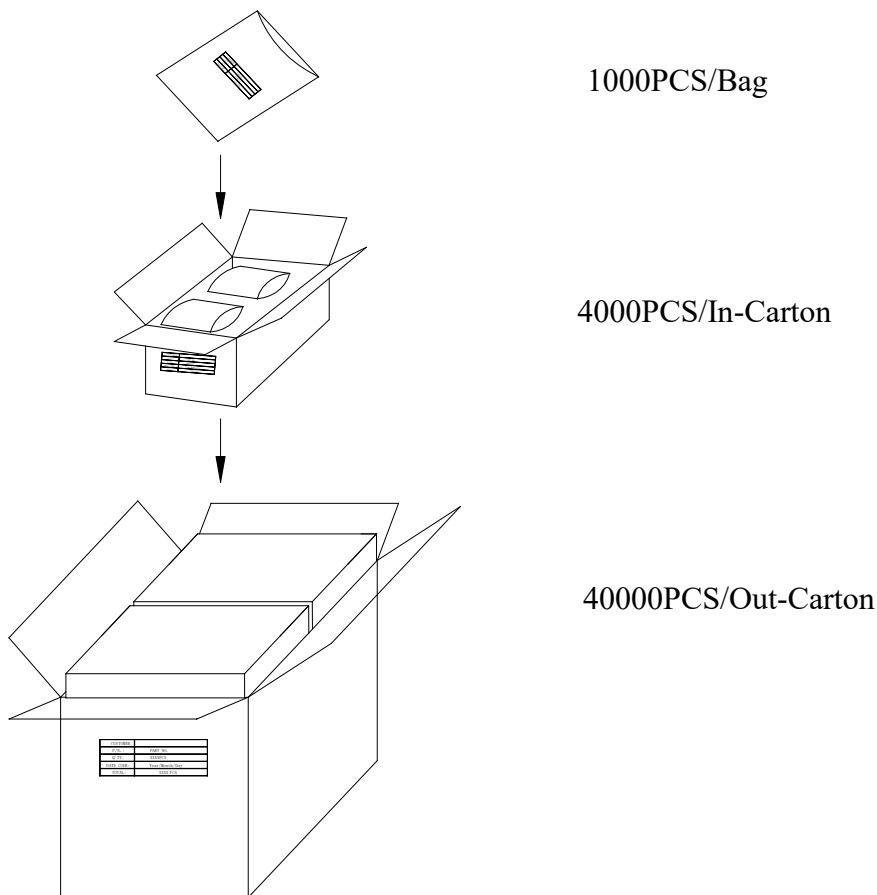
I<sub>v</sub>: The test value of the chip that has completed the reliability test






U: Upper Specification Limit

L: Lower Specification Limit

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## Packing Specification:



	<b>HARVATEK</b>	
CPN:		<b>RoHs</b>
P/N:		
	HV-52G2004C-L52	
QTY:		CAT:
		HUE:
LOT NO:		REF:

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**Revision History**

Revision	Page	Version No.	Revision Date
Initial Release		1.0	05-29-2020

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