

**Harvatek 3.0mm Round LED LAMP****HV-59Y2004C**

Official Product	HV-59Y2004C	Customer Part No.	Data Sheet No.
	*****	*****	HV-59Y2004C
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Apr.17. 2021	Version of 1.0	Page 1/11

## DISCLAIMER

HARVATEK reserves the right to make changes without further notice to any products herein to improve reliability, function or design. HARVATEK does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights, nor the rights of others.

## 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.

Official Product	HV-59Y2004C	Customer Part No.		Data Sheet No.
	*****	*****		HV-59Y2004C
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Apr.17. 2021	Version of 1.0	Page 2/11

## Compliance and Certification

ISO9002, QS9000 and ISO14001 Certified  
RoHS Compliant



## Orderable Information

**H V - 59 Y 2004 C**

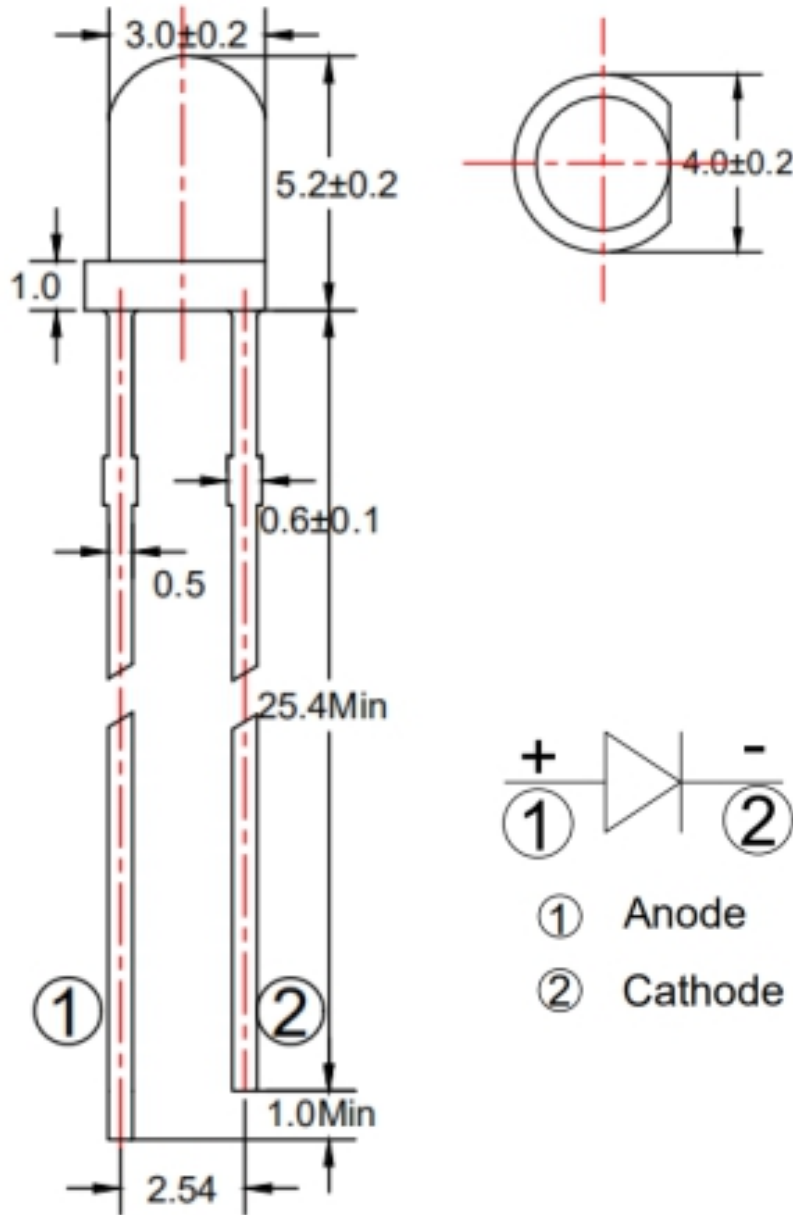
Series Name	Color Code	Remark
HV : HARVATEK	59Y2004: 3.0mm Round LED LAMP,5.2mm Lens. AlGaInP 590nm Yellow chip C : Water Clear	

## Features:

- Stable Color
- Popular 3.0mm through hole package, 5.2mm lens height.
- Water Clear lens.

Official Product	HV-59Y2004C	Customer Part No.	Data Sheet No.
	*****	*****	HV-59Y2004C
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Apr.17. 2021	Version of 1.0
			Page 3/11

**Package Dimensions:**



Notes:

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

Official Product	HV-59Y2004C *****	Customer Part No.	Data Sheet No.
		*****	HV-59Y2004C
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Apr.17. 2021	Version of 1.0	Page 4/11

## 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+85	°C
Soldering Temperature*1	T <sub>sol</sub>	260±5	°C
Power Dissipation	P <sub>d</sub>	75	mW
Reverse Voltage	V <sub>R</sub>	5	V
Peak Forward Current*2	I <sub>FP</sub>	80	mA

\*1:Soldering time ≅ 5 seconds. \*2:Pulse Width ≅ 100 μ s and Duty ≅ 1%.

Official Product	HV-59Y2004C	Customer Part No.	Data Sheet No.
	*****	*****	HV-59Y2004C
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Apr.17. 2021	Version of 1.0	Page 5/11

## Electrical and Optical Characteristic

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$	$I_F=20\text{ mA}$	/	2.0	2.5	V
Reverse Current	$I_R$	$V_R=5\text{ V}$	/	/	10	$\mu\text{A}$
Luminous Intensity	$I_V$	$I_F=20\text{ mA}$	1500	4500	/	mcd
Viewing Angle	$2\theta_{1/2}$	$I_F=20\text{ mA}$	/	25	/	deg
Dominant Wavelength	$\lambda_d$	$I_F=20\text{mA}$	/	590	/	nm
Peak Wavelength	$\lambda_p$	$I_F=20\text{ mA}$	/	595	/	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.

Official Product	HV-59Y2004C	Customer Part No.	Data Sheet No.
	*****	*****	HV-59Y2004C
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Apr.17. 2021	Version of 1.0
			Page 6/11

## Specifications for Bin Grading:

Iv (mcd)		
Grade	Min.	Max.
X	1500	3200
Y	2500	4500
Z	3900	8500

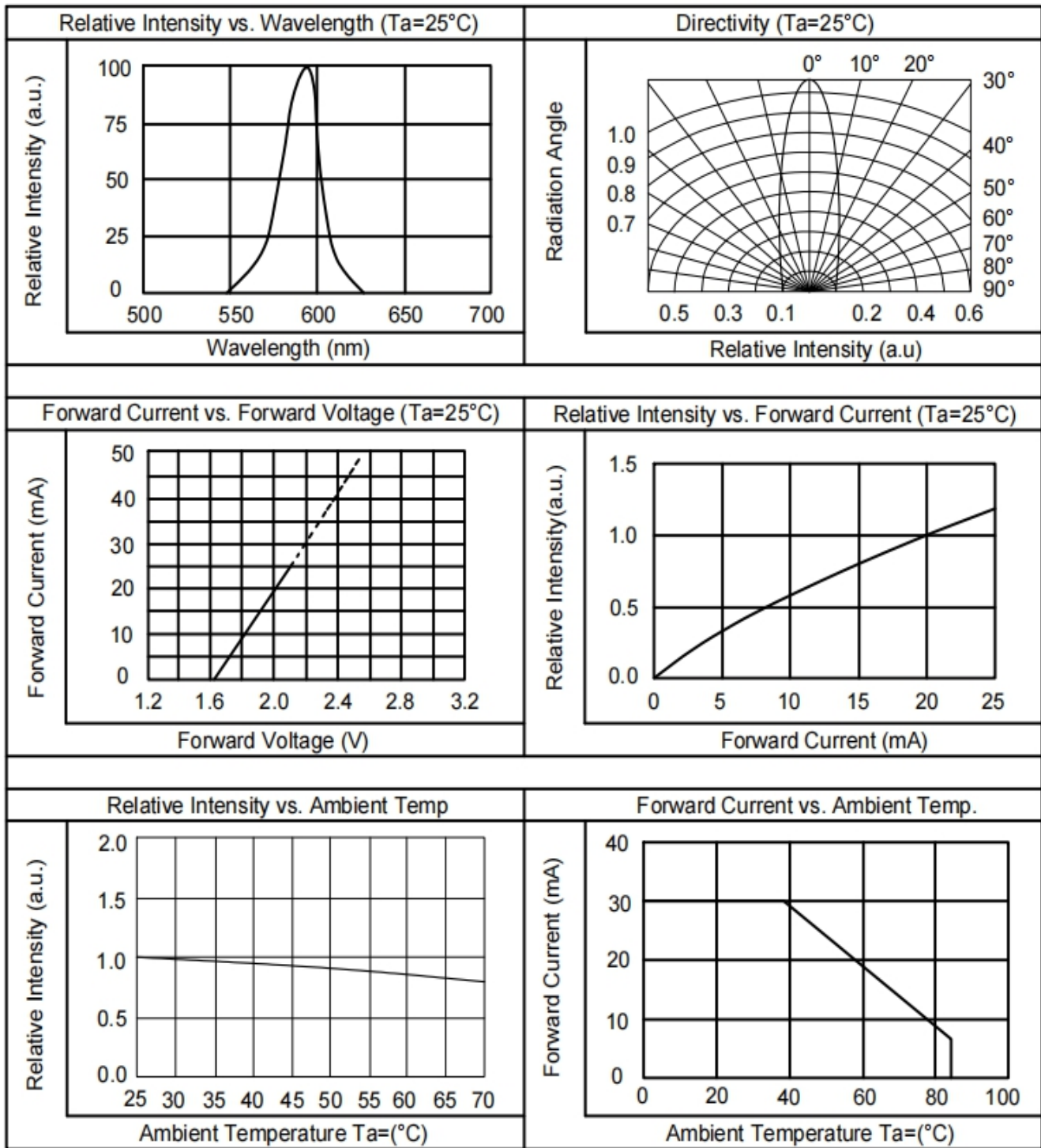
$\lambda d$ (nm)		
Grade	Min.	Max.
3	585	588
4	587	590
5	589	592
6	591	594
7	593	595

Notes:

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

Official Product	HV-59Y2004C	Customer Part No.	Data Sheet No.
	*****	*****	HV-59Y2004C
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Apr.17. 2021	Version of 1.0
			Page 7/11

## Typical Electro-Optical Characteristics Curve



Official Product	HV-59Y2004C	Customer Part No.	Data Sheet No.
	*****	*****	HV-59Y2004C
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Apr.17. 2021	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	$I_v \cong I_{vt} * 0.5$ or $V_f \cong U$ or $V_f \cong L$	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.

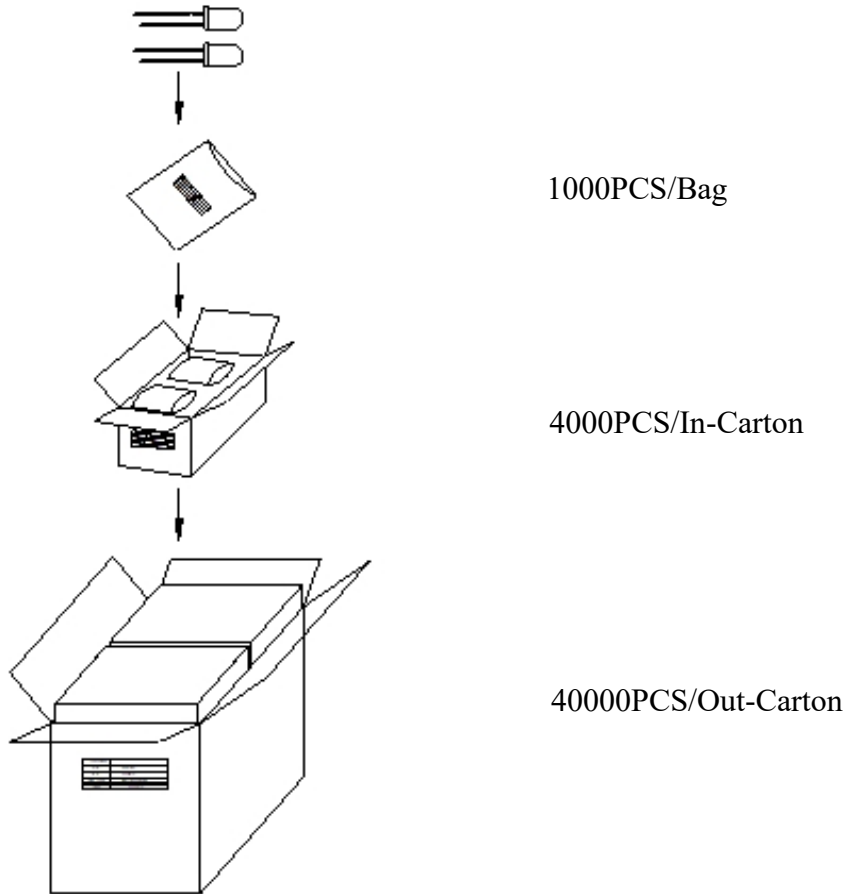
$I_v$ : The test value of the chip that has completed the reliability test

U: Upper Specification Limit

L: Lower Specification Limit

Official Product	HV-59Y2004C	Customer Part No.		Data Sheet No.
	*****	*****		HV-59Y2004C
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Apr.17. 2021	Version of 1.0	Page 9/11

## Packing Specification:



	<b>HARVATEK</b>	
CPN:		<b>RoHS</b>
P/N:		
	<b>HV-59Y2004C</b>	
QTY:		CAT:
		HUE:
LOT NO:		REF:

Official Product	HV-59Y2004C	Customer Part No.	Data Sheet No.
	*****	*****	HV-59Y2004C
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Apr.17. 2021	Version of 1.0
			Page 10/11

## Revision History

Revision	Page	Version No.	Revision Date
Initial Release		1.0	04-17-2021

Official Product	HV-59Y2004C	Customer Part No.	Data Sheet No.
	*****	*****	HV-59Y2004C
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Apr.17. 2021	Version of 1.0	Page 11/11