

Harvatek 3.0mm Round LED LAMP**HV-46W2304C**

Official Product	HV-46W2304C	Customer Part No.		Data Sheet No.
	*****	*****		CDAE-010-***
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Jun.17 2020	Version of 1.0	Page 1/12

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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 - 46 W 2304 C

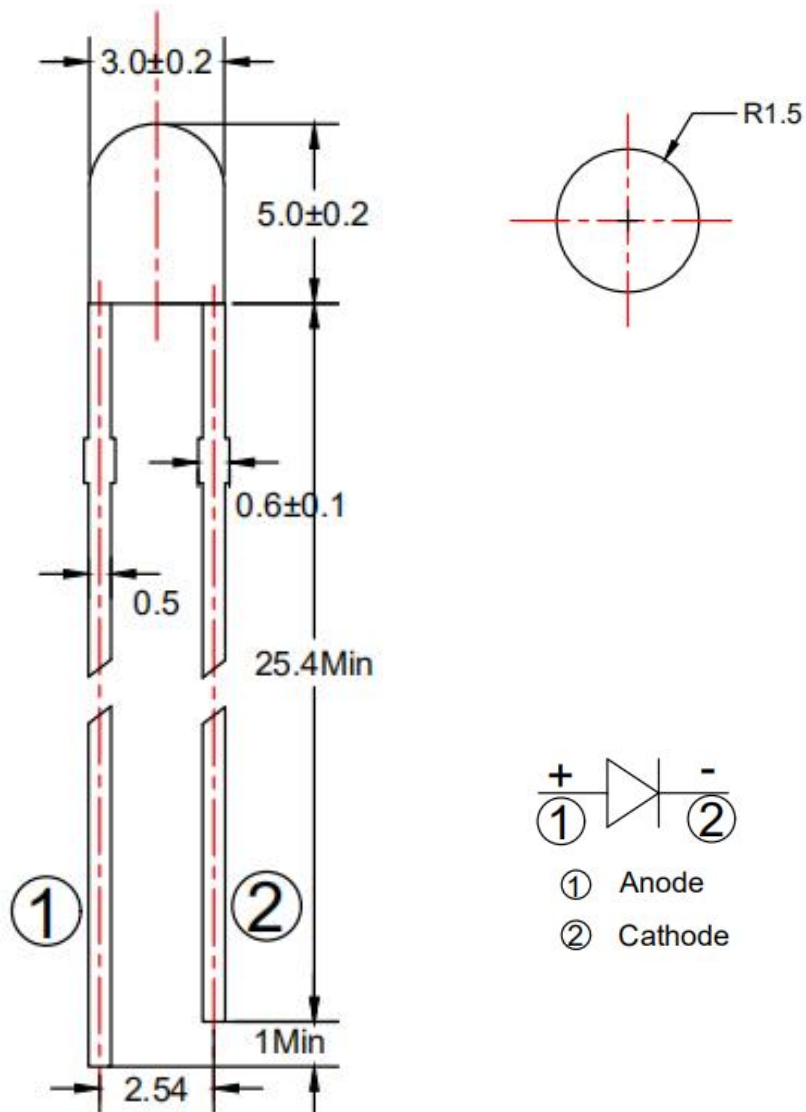
Series Name	Color Code	Remark
HV : HARVATEK	46W2304: 3.0mm Round LED LAMP,5.0mm Lens. InGaN 455nm White Chip C : Water Clear	

Features:

- Stable Color
- Popular 3.0mm through hole package, 5.0mm lens height.
- Water Clear lens

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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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Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Forward Current	I _F	30	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
Reverse Voltage	V _R	5	V
Peak Forward Current*2	I _{FP}	0.1	A

*1:Soldering time ≦ 5 seconds. *2 Pulse Width ≦ 100 μs and Duty ≦ 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	3.4	V
Reverse Current	I_R	$V_R=5\text{ V}$	/	/	10	μA
Luminous Intensity	I_V	$I_F=20\text{ mA}$	2500	5000	/	mcd
Viewing Angle	$2\theta_{1/2}$	$I_F=20\text{ mA}$	/	45	/	deg
Chromaticity Coordinates	X	$I_F=20\text{ mA}$	/	0.27	/	/
	Y	$I_F=20\text{ mA}$	/	0.26	/	/
Spectrum Radiation Bandwidth	$\Delta\lambda$	$I_F=20\text{ mA}$	/	20	/	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:

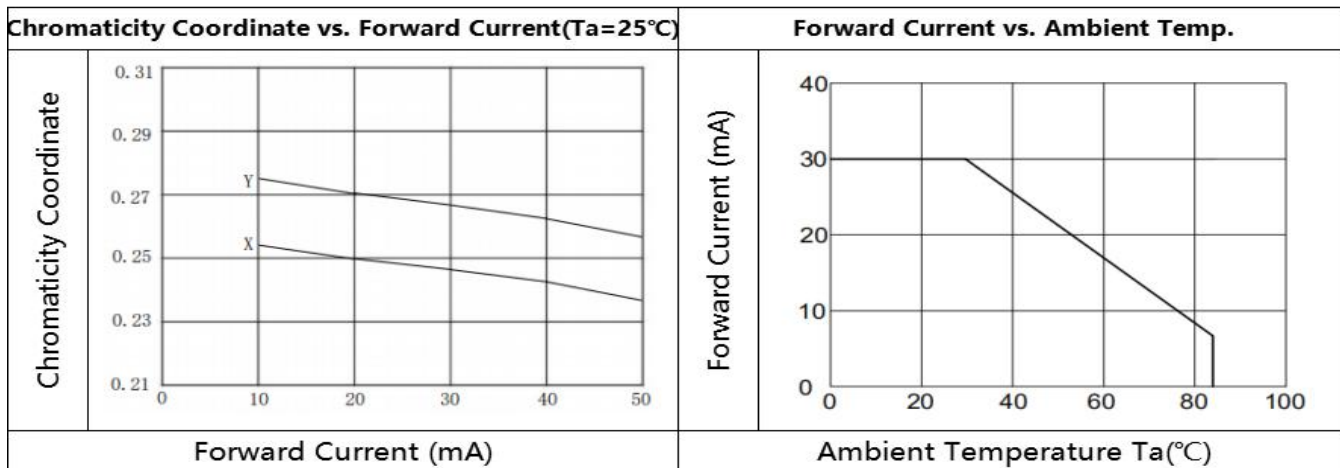
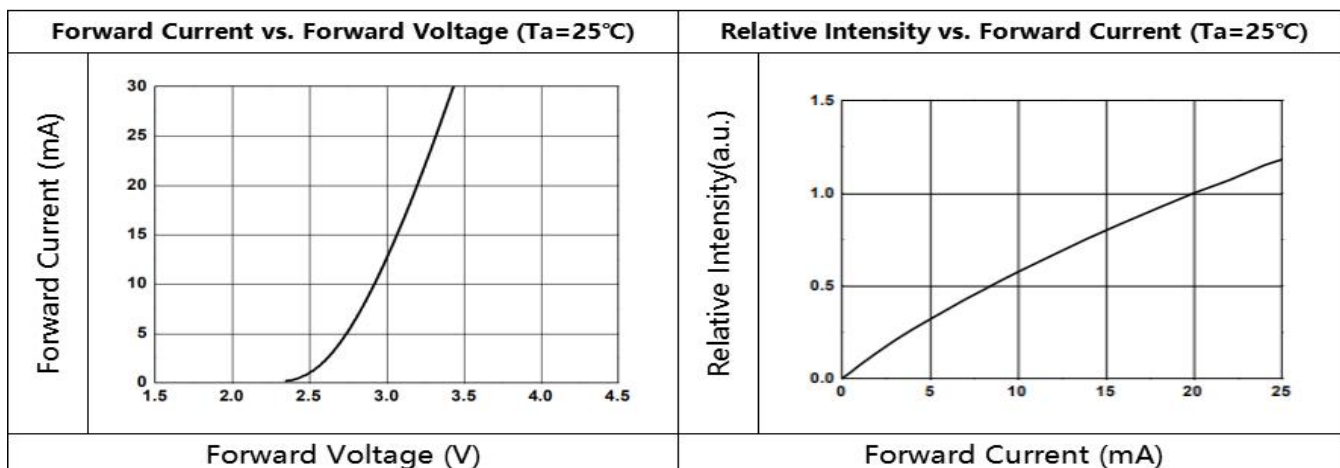
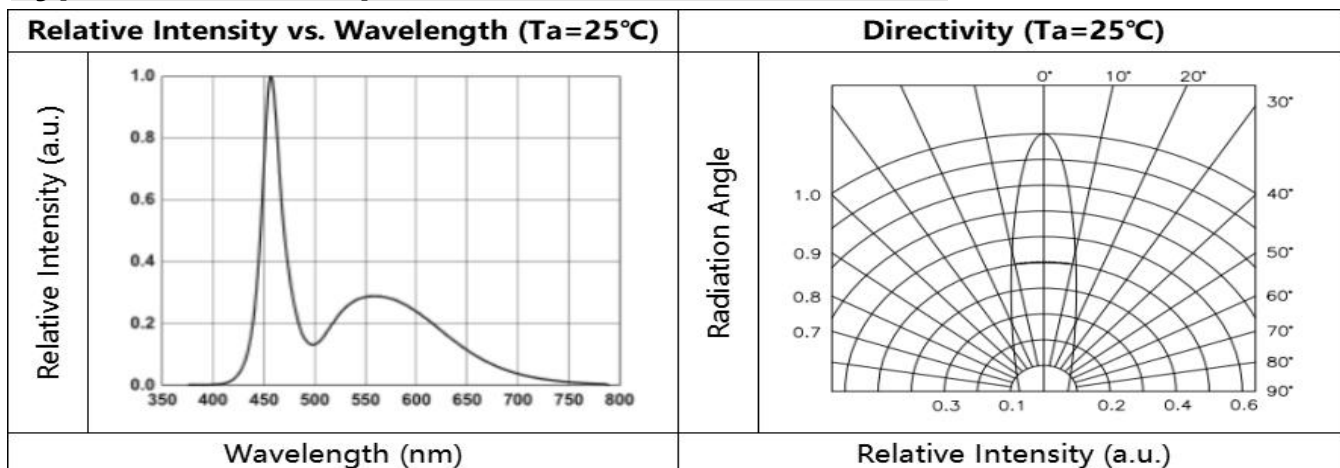
I _v (mcd)		
Grade	Min.	Max.
Y	2500	4500
Z	3900	8500
Z1	6700	12000
Z2	10000	18000

Notes:

1.Luminous intensity:+/-15%.

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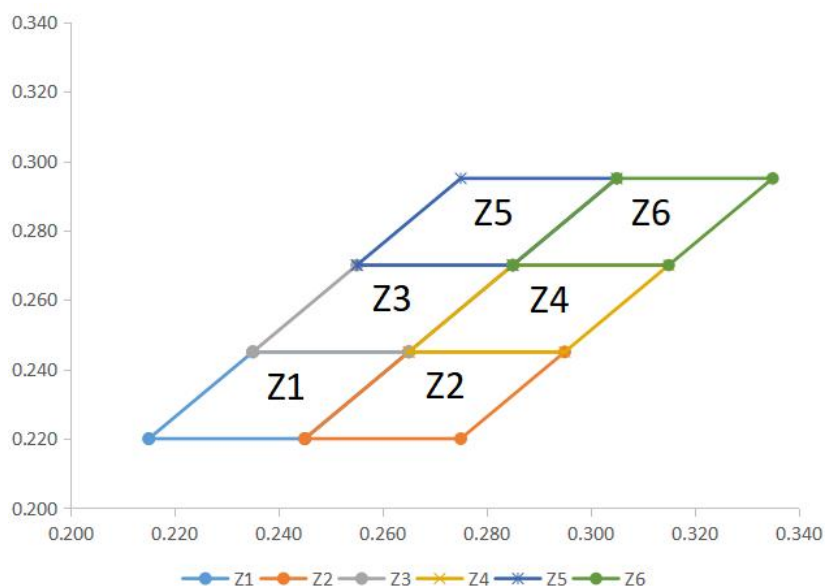
Typical Electro-Optical Characteristics Curves



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C.I.E. Chromaticity Diagram

Z1	X	0.215	0.235	0.265	0.245
	Y	0.220	0.245	0.245	0.220
Z2	X	0.245	0.265	0.295	0.275
	Y	0.220	0.245	0.245	0.220
Z3	X	0.235	0.255	0.285	0.265
	Y	0.245	0.270	0.270	0.245
Z4	X	0.265	0.285	0.315	0.295
	Y	0.245	0.270	0.270	0.245
Z5	X	0.255	0.275	0.305	0.285
	Y	0.270	0.295	0.295	0.270
Z6	X	0.285	0.305	0.335	0.315
	Y	0.270	0.295	0.295	0.270



Note:

1. Test current is $I_F = 20\text{mA}$
2. CIE(X, Y) coordinates for each angle measurement, the difference between the maximum measured value and the minimum measured value X can not exceed 0.04, and Y can not exceed 0.05.

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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.

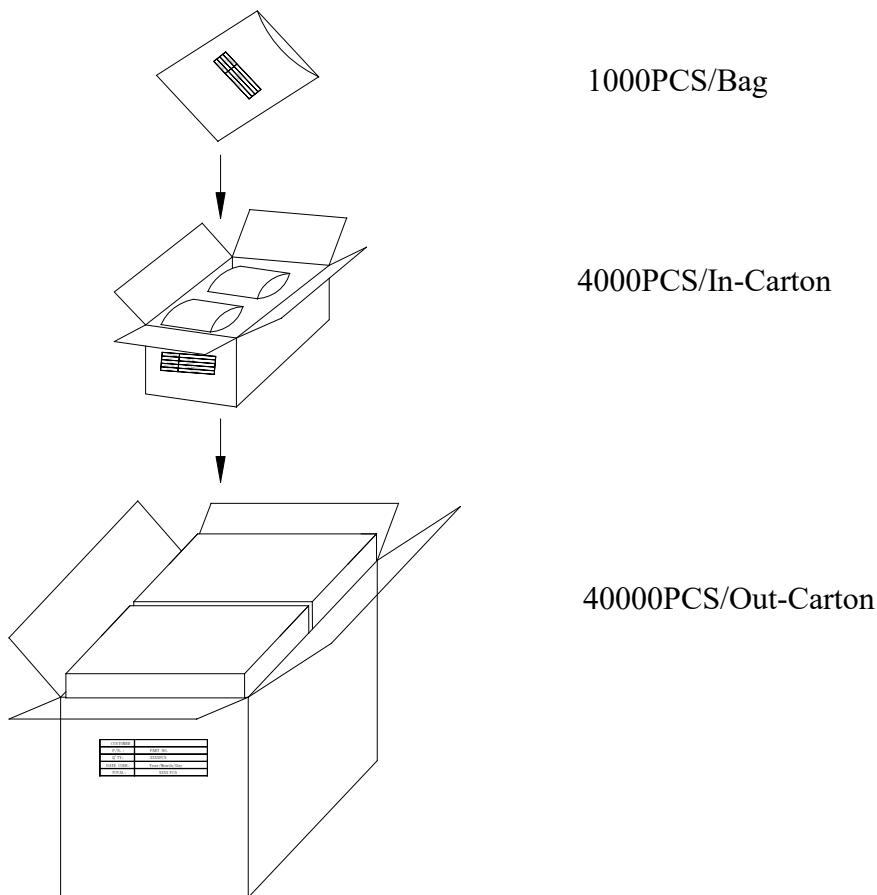
I_v : The test value of the chip that has completed the reliability test






U: Upper Specification Limit

L: Lower Specification Limit

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Packing Specification:



	HARVATEK	
CPN:		RoHs
P/N:		
	HV-46W2304C	
QTY:		CAT:
		HUE:
LOT NO:		REF:

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Revision History

Revision	Page	Version No.	Revision Date
Initial Release		1.0	06-17-2020

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