Harvatek 3.0mm Round LED LAMP with Holder

HV-3120110/260/UTC-U1930

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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.

Compliance and Certification

ISO9002, QS9000 and ISO14001 Certified

RoHS Compliant

Orderable Information

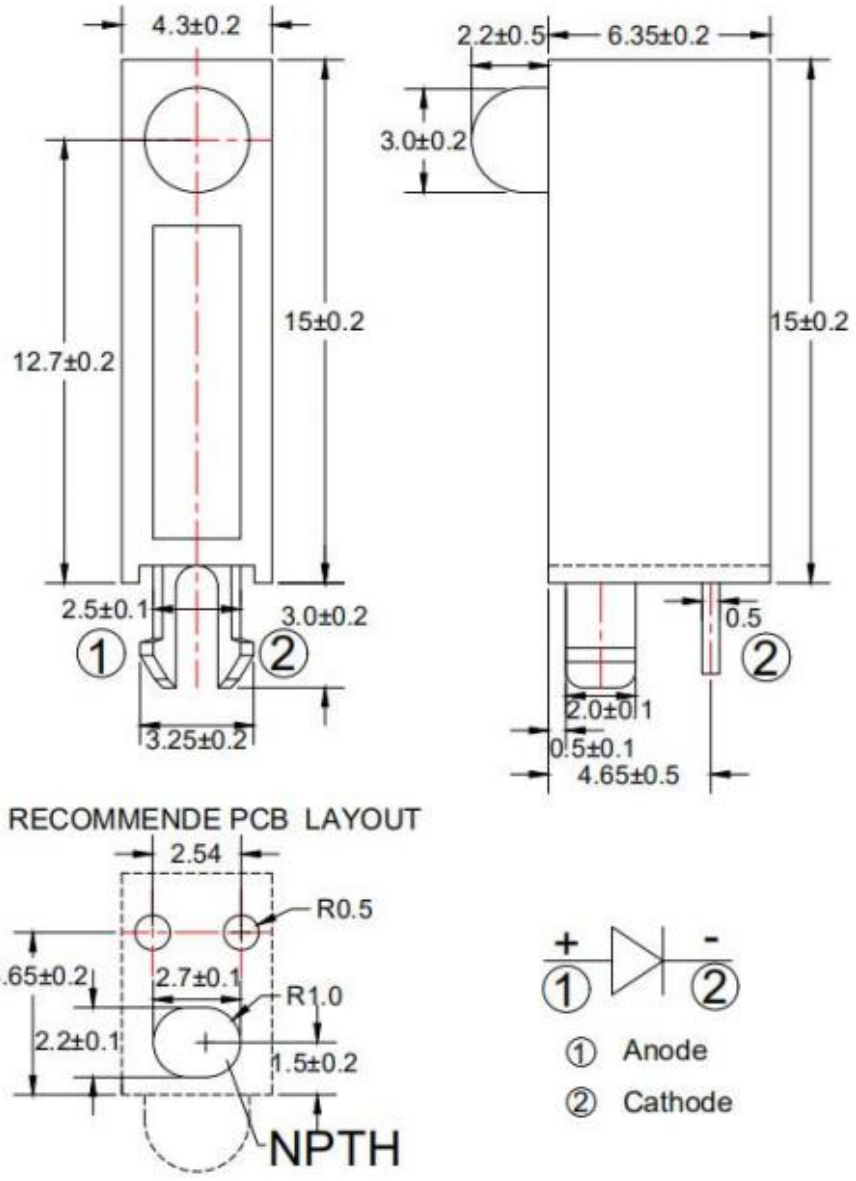
H V - 3120110 - 260 - UTC - U1930

Series Name	Color Code	Remark
HV : **HARVATEK**	**3120110:Array 1 Lamp** **260: 3.0mm Round LED LAMP.** **UT:** **InGaN 455nm White Chip** **C : Water Clear**	**U1930:** **Customer Product Code**

Features:

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

Package Dimensions:



Notes:

1.All dimensions are millimeters.

2.Tolerance is +/-0.25mm unless otherwise noted.

3.Specifications are subject to change without notice.

Absolute Maximum Ratings at Ta=25℃

Parameter	Symbol	Rating	Unit
Forward Current	I_F	30	mA
Operating Temperature	Topr	-40to+85	℃
Storage Temperature	Tstg	-40to+85	℃
Soldering Temperature*1	Tsol	260±5	℃
Power Dissipation	Pd	100	mW
Reverse Voltage	V_R	5	V
Peak Forward Current*2	I_{FP}	100	mA

*1:Soldering time ≦ 5 seconds.

*2 tw=100u second T=10m second.

Electrical and Optical Characteristic

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	I_F=20 mA	/	3.0	3.8	V
Reverse Current	IR	V_R= 5 V	/	/	10	μA
Luminous Intensity	IV	I_F=20 mA	1200	2800	/	mcd
Viewing Angle	2θ1/2	I_F=20 mA	/	80	/	deg
Chromaticity Coordinates	X	I_F=20 mA	/	0.30	/	/
	Y	I_F=20 mA	/	0.30	/	/
Spectrum Radiation Bandwidth	Δλ	I_F=20 mA	/	20	/	nm

Notes:

1.Luminous intensity:+/-15%.

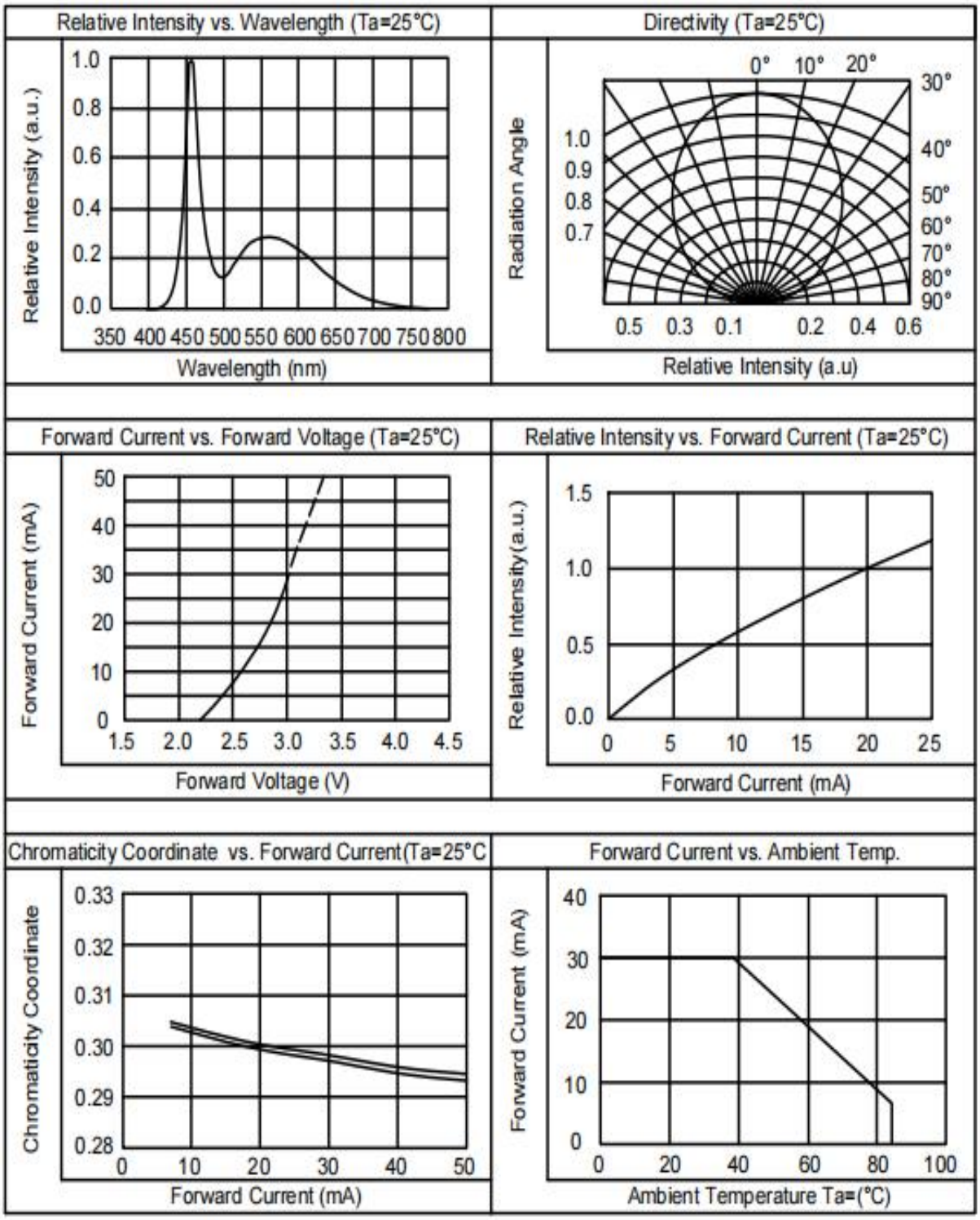
2.Wavelength: +/-1nm.

Specifications for Bin Grading:

Iv (mcd)		
Grade	Min.	Max.
X	1200	3200
Y	2500	4500
Z	3900	8500

Notes: Luminous intensity:+/-15%.

Typical Electrical / Optical Characteristics Curves

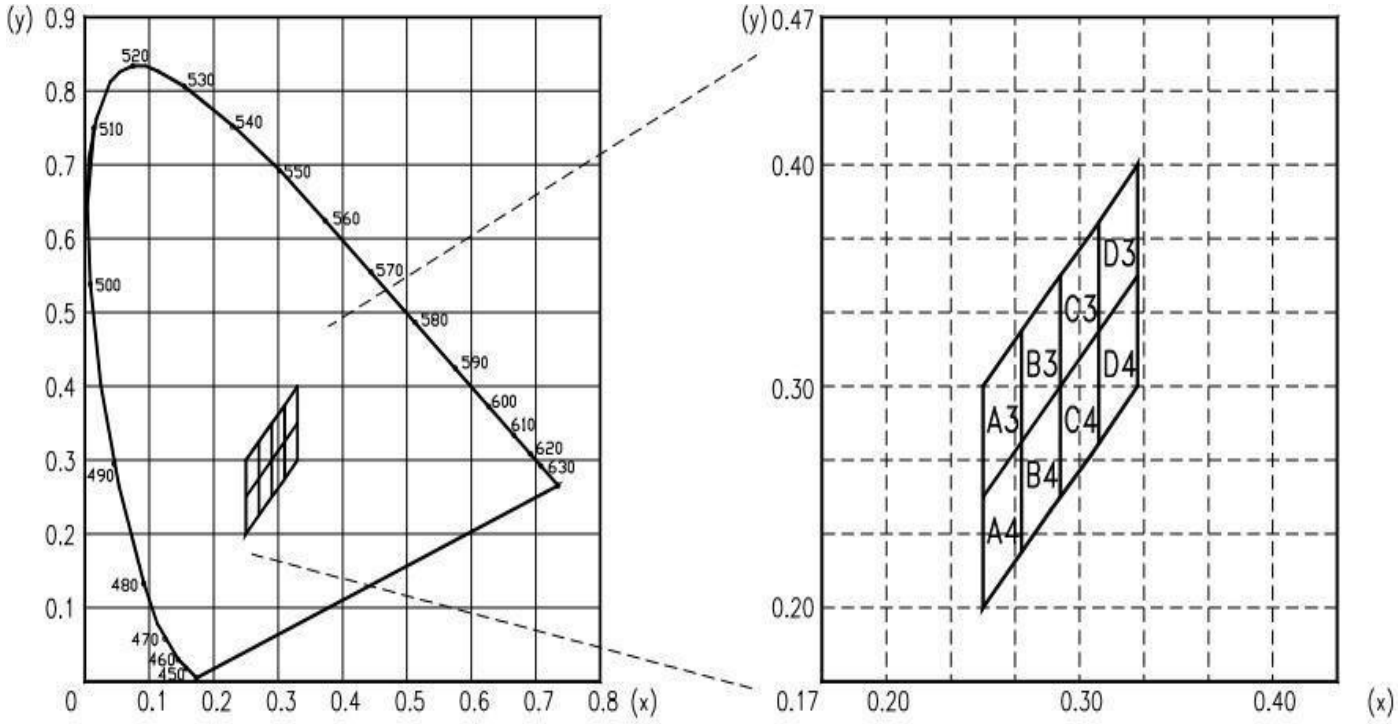


Bin Table Specification

Hue Ranks	Chromaticity Coordinates, CC(x,y), If=20mA				
A3	X	0.270	0.270	0.250	0.250
	Y	0.275	0.325	0.300	0.250
A4	X	0.270	0.250	0.250	0.270
	Y	0.275	0.250	0.200	0.225
B3	X	0.290	0.290	0.270	0.270
	Y	0.300	0.350	0.325	0.275
B4	X	0.290	0.270	0.270	0.290
	Y	0.300	0.275	0.225	0.250
C3	X	0.310	0.310	0.290	0.290
	Y	0.325	0.375	0.350	0.300
C4	X	0.310	0.290	0.290	0.310
	Y	0.325	0.300	0.250	0.275
D3	X	0.330	0.330	0.310	0.310
	Y	0.350	0.400	0.375	0.325
D4	X	0.330	0.310	0.310	0.330
	Y	0.350	0.325	0.275	0.300

Note: Tolerance of each bin limit is ±0.01

C.I.E. 1931 Chromaticity Diagram



Note:

1.Test current is IF = 20mA

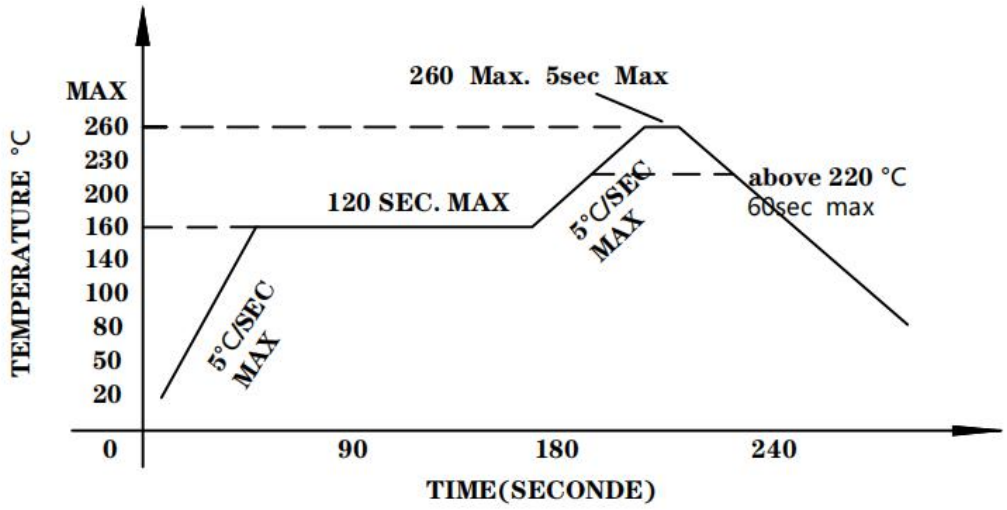
2.CIE(X, Y) coordinates for each angle measurement, the difference between the maximum measured value and the minimum measured value X can not exceed 0.04, and Y can not exceed 0.05.

Soldering condition

1. Careful attention should be paid during soldering. When soldering, leave more then 2mm from solder joint to Led, and soldering beyond the base of the tie bar is recommended.
2. Avoiding applying any stress to the lead frame while the LED are at high temperature particularly when soldering.
3. Dip and hand soldering should not be done more than one time.
4. After soldering the LED, the epoxy bulb should be protected from mechanical shock or vibration until the LED return to room temperature.
5. A rapid-rate process is not recommended for cooling the LED down from the peak temperature.
6. Although the recommended soldering conditions are specified in the above table, dip or hand soldering at the lowest possible temperature is desirable for the LED.
7. Wave soldering parameter must be set and maintain according to recommended temperature and dwell time in the solder wave.

Recommended soldering conditions

Hand Soldering		Wave Soldering	
Temp. at tip of iron	300℃ Max. (30W Max.)	Preheat temp.	160℃ Max. (120 sec Max.)
Soldering time	3 sec Max.	Bath temp. & time	260 Max., 5 sec Max
Distance	2mm Min.(From solder joint to Led)	Distance	2mm Min. (From solder joint to Led)



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℃±5℃	10 SEC	76 PCS	Iv≦Ivt*0.5 or Vf≧U or Vf≦L	0/1
2	Temperature Cycle	H:+100℃ 15min ∫ 5min L:-40℃ 15min	300 CYCLES	76 PCS		0/1
3	Thermal Shock	H:+100℃ 5min ∫ 10sec L:-10℃ 5min	300 CYCLES	76 PCS		0/1
4	High Temperature Storage	TEMP:100℃	1000 HRS	76 PCS		0/1
5	Low Temperature Storage	TEMP:-40℃	1000 HRS	76 PCS		0/1
6	DC Operating Life	TEMP:25℃ IF=20mA	1000 HRS	76 PCS		0/1
7	High Temperature / High Humidity	85℃/85%RH	1000 HRS	76 PCS		0/1

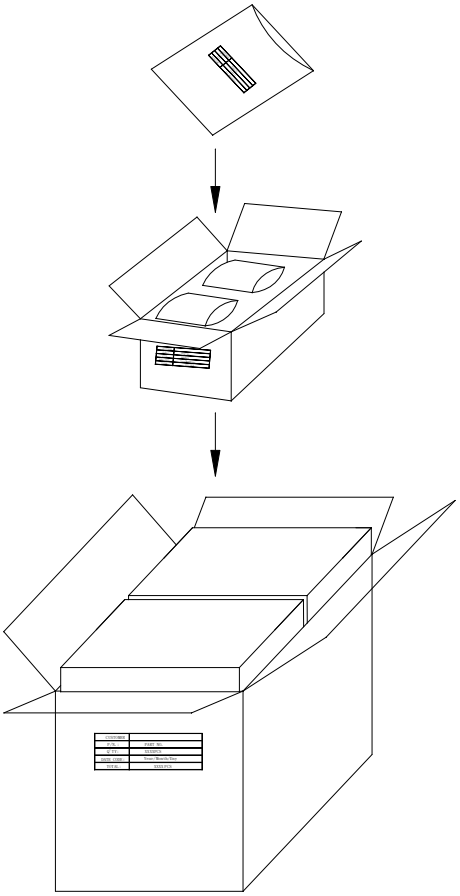
Note：Ivt：To test Iv value of the chip before the reliability test.

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

U：Upper Specification Limit

L：Lower Specification Limit

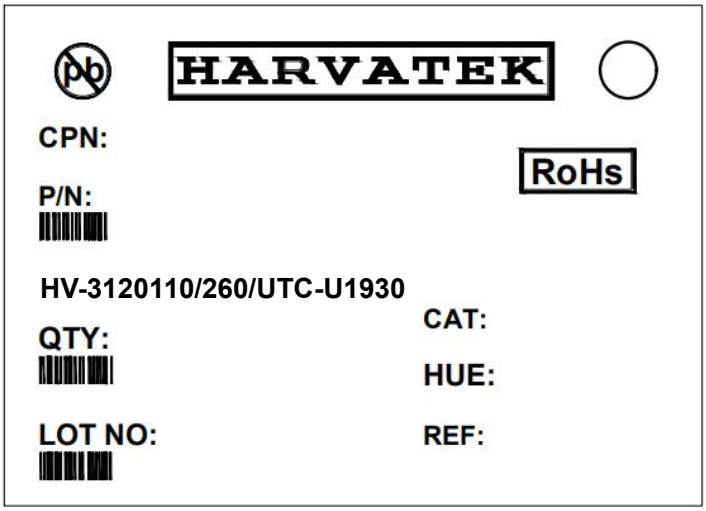
Packing Specification:



250PCS/Bag

1000PCS/In-Carton

10000PCS/Out-Carton



Revision History

Revision	Page	Version No.	Revision Date
Initial Release		1.0	08-13-2021