Harvatek 3.0mm ROUND LED LAMP

HV-64R3054T

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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

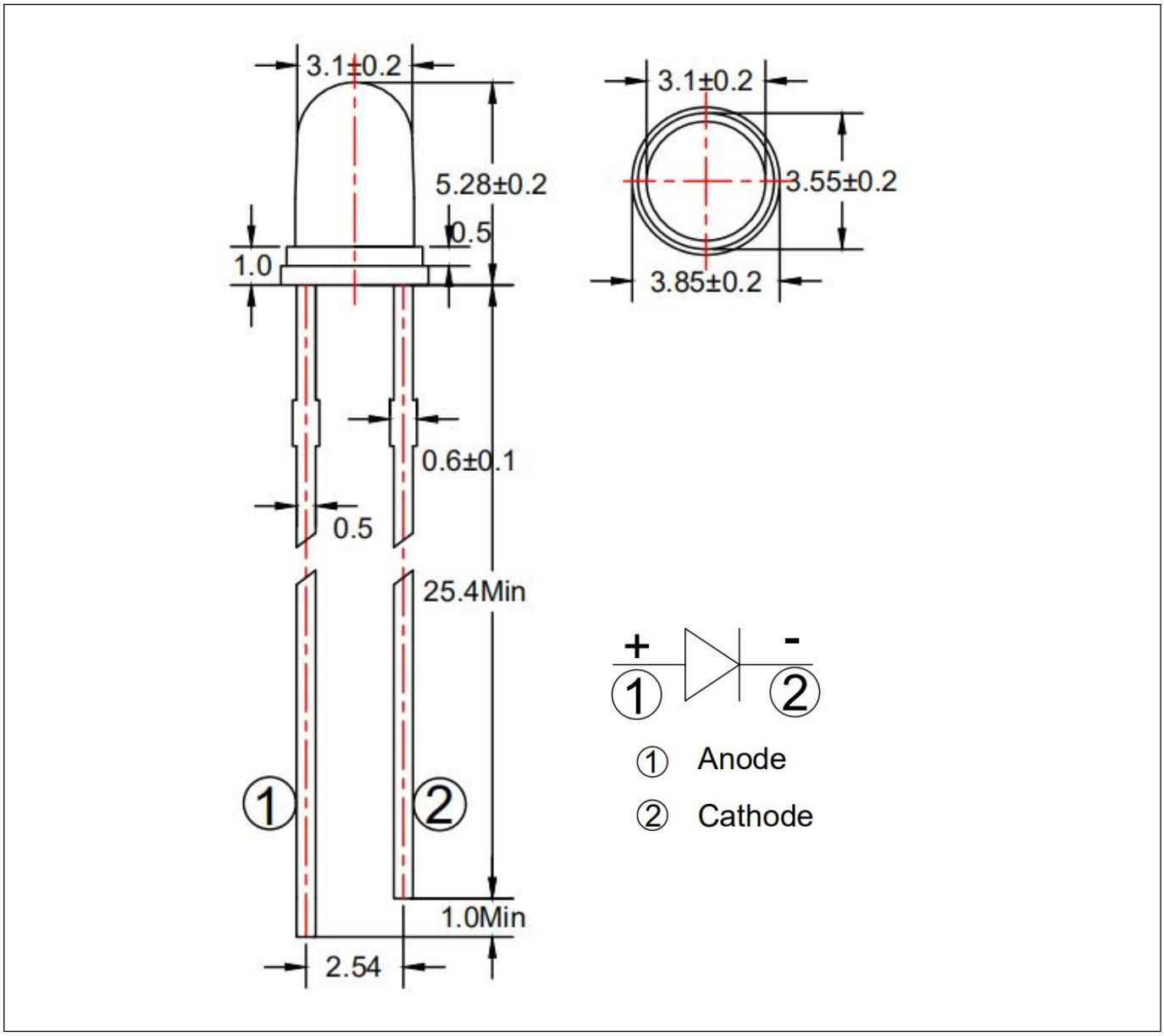
H V - 64 R 3054T

Series Name	Color Code	Remark
HV : HARVATEK	64R3054: 3.1mm ROUND LED LAMP,5.28mm Lens. AlGaInP 640nm Red Chip T: Red Transparent	

Features:

- Stable Color
- Popular 3.1mm through hole package, 5.28mm lens height.
- Red Transparent 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+100	℃
Soldering Temperature*1	Tsol	260±5	℃
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%

Electrical and Optical Characteristic

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	IF=20 mA	/	2.0	2.6	V
Reverse Current	I_R	VR= 5 V	/	/	10	μA
Luminous Intensity	I_V	IF=20 mA	100	200	/	mcd
Viewing Angle	$2\theta_{1/2}$	IF=20 mA	/	40	/	deg
Dominant Wavelength	λ_d	IF=20 mA	630	640	/	nm
Peak Wavelength	$\lambda\rho$	IF=20 mA	635	645	/	nm
Spectrum Radiation Bandwidth	$\Delta\lambda$	IF=20 mA	/	20	/	nm

Notes:θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

Specifications for Bin Grading:

Iv (mcd)		
Grade	Min.	Min.
R	100	200
S	160	320
T	250	500
U	400	800

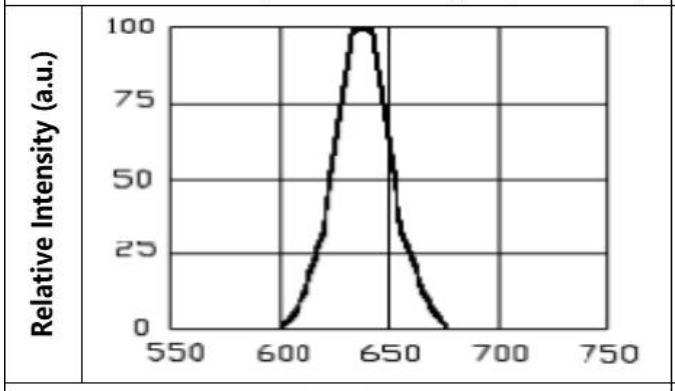
Notes:

1.Luminous intensity:+/-15%.

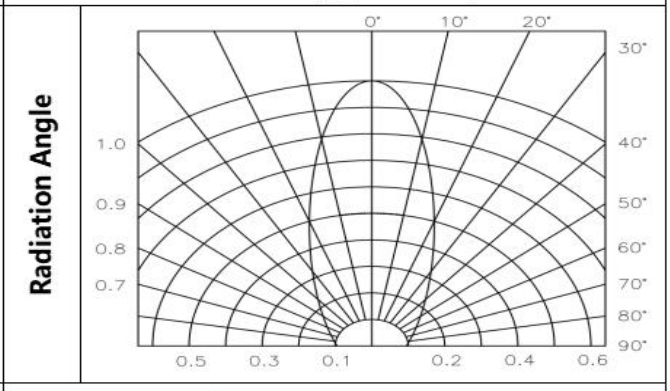
2.Wavelength: +/-1nm

Typical Electro-Optical Characteristics Curves

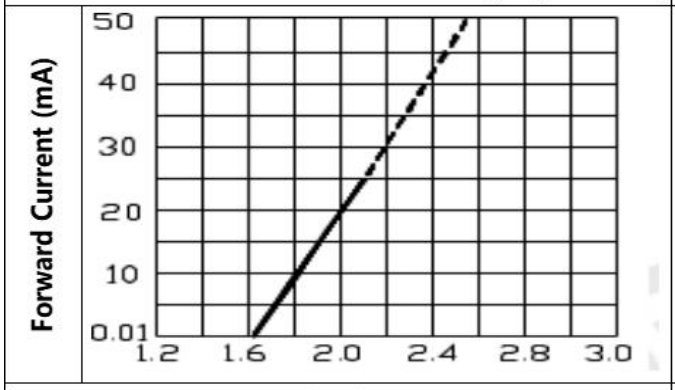
Relative Intensity vs. Wavelength (Ta=25℃)



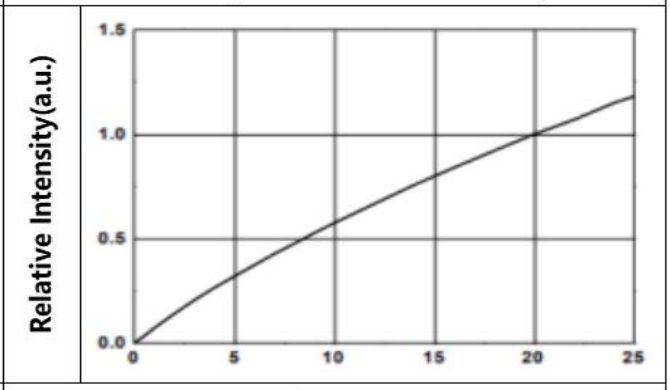
Directivity (Ta=25℃)



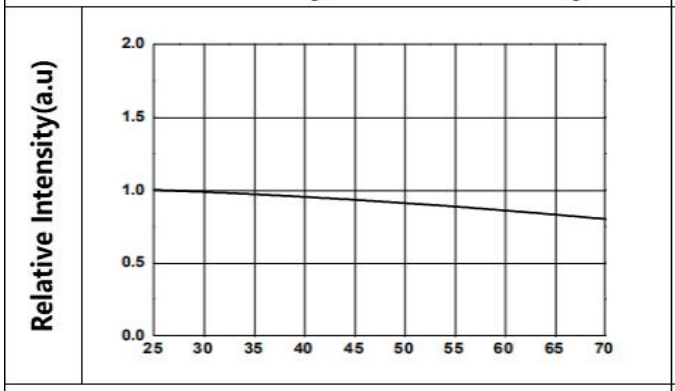
Forward Current vs. Forward Voltage (Ta=25℃)



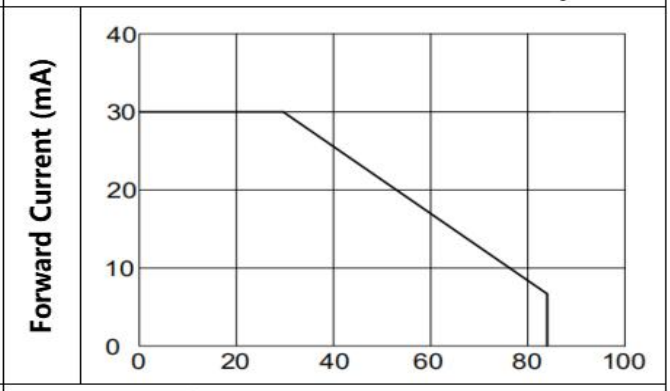
Relative Intensity vs. Forward Current (Ta=25℃)



Relative Intensity vs. Ambient Temp



Forward Current vs. Ambient Temp.



Soldering condition

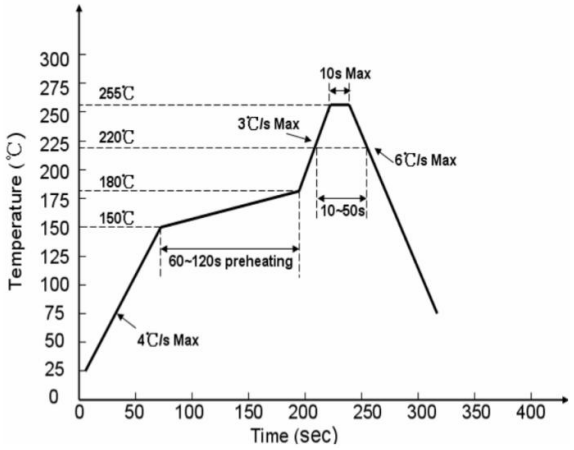
Recommended soldering conditions

Reflow		Soldering	
Pre-heat	160～180℃	Temperature	400℃Max.
Pre-heat time	120 seconds Max.		
Peak temperature	260℃Max.		
Soldering time	10 seconds Max.		
Condition	Refer to Temperature-profile	Soldering time	3 second Max. (one time only)

- After reflow soldering rapid cooling should be avoided

Pb-free solder temperature profile

- We suggest that the reflow soldering temperature is 240 ± 5℃, the highest control the welding temperature to 260 ℃;
- Reflow soldering recommended once;
- When soldering ,do not put stress on the LEDs during heating;



Soldering iron

1. When hand soldering, keep the temperature of the iron under 400℃, and at that temperature keep the time under 3 sec;
2. The hand soldering should be done only a time;
3. The basic spec is ≤ 3 sec. when the temperature of 260 ℃ , do not contact the resin when hand soldering;

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

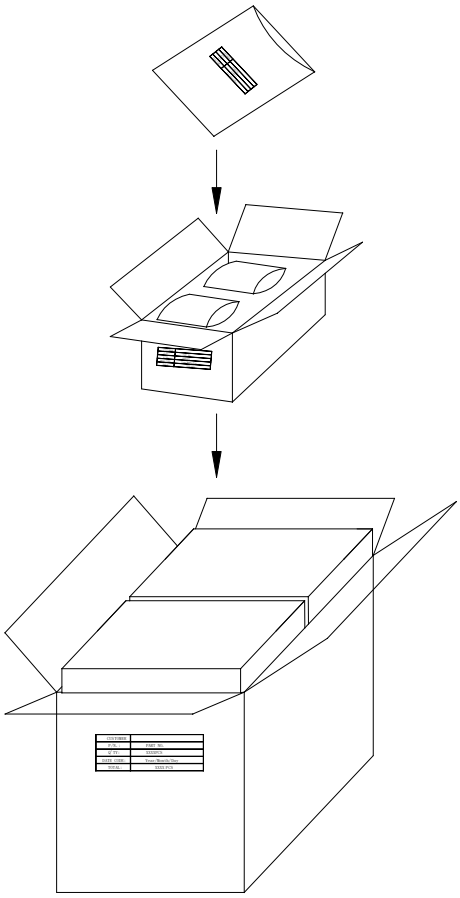
Note：Ivt：To test Iv value of the chip before the reliability test.

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

U：Upper Specification Limit

L：Lower Specification Limit

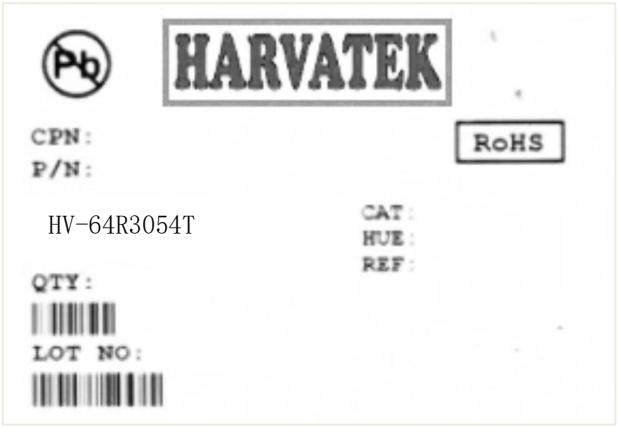
Packing Specification:



1000PCS/Bag

4000PCS/In-Carton

40000PCS/Out-Carton



Revision History

Revision	Page	Version No.	Revision Date
Initial Release		1.0	02-13-2020
Revisions on drawings and Specifications for Bin Grading	4,7	1.1	10-30-2020