

**Harvatek 5.0mm ROUND LED LAMP****HV-47B3304C-TR1-J0004**

Official Product	HV-47B3304C-TR1-J0004	Customer Part No.		Data Sheet No.
	*****	*****		HV-47B3304C-TR1-J0004
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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 - 47 B 3304 C - TR1 - J0004

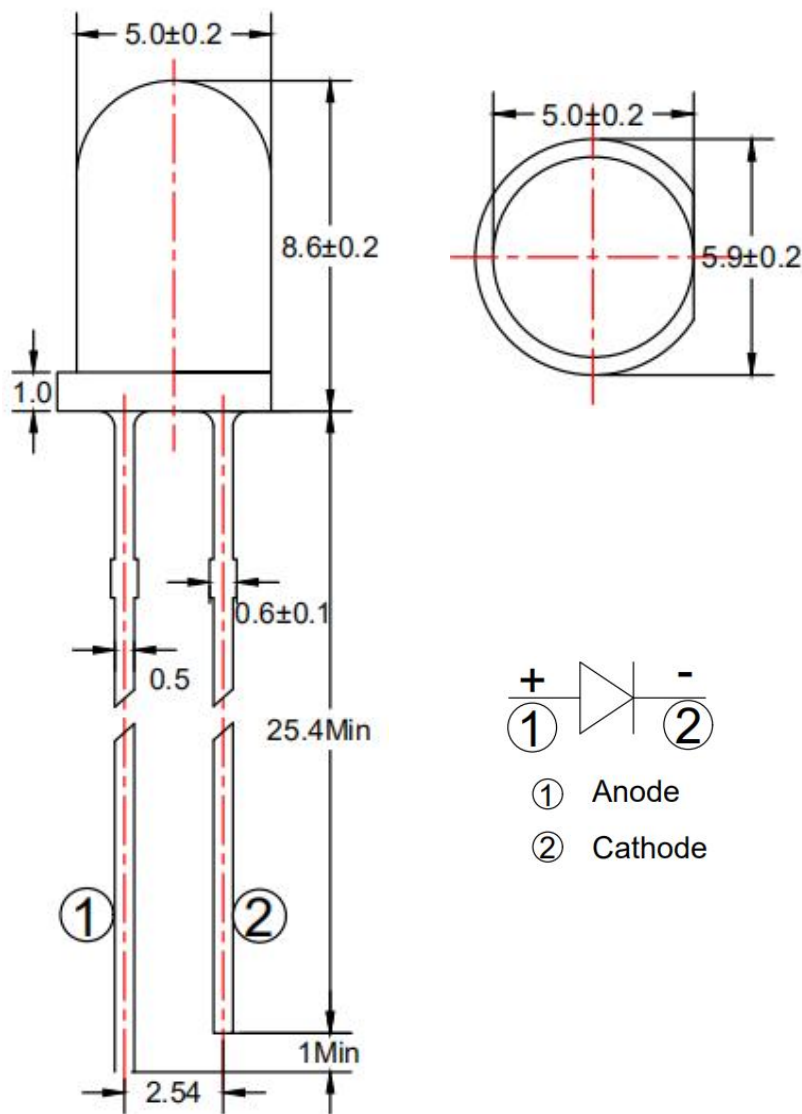
Series Name	Color Code	Remark
HV : HARVATEK	47B3304: 5.0mm ROUND LED LAMP,8.6mm Lens. InGaN 468nm Blue Chip C: Water Clear. TR1:Carrier Tape Dimensions	J0004: Customer Product Code

## Features:

- Stable Color
- Popular 5.0mm through hole package, 8.6mm lens height.
- Water Clear lens.

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## Package Dimensions:



### Notes:

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

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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	Topr	-40to+85	°C
Storage Temperature	Tstg	-40to+100	°C
Soldering Temperature*1	Tsol	260±5	°C
Power Dissipation	P <sub>d</sub>	120	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	$V_F$	$I_F=20\text{ mA}$	/	2.8	3.5	V
Reverse Current	$I_R$	$V_R=5\text{ V}$	/	/	10	$\mu\text{A}$
Luminous Intensity	$I_v$	$I_F=20\text{ mA}$	2500	6000	/	mcd
Viewing Angle	$2\theta_{1/2}$	$I_F=20\text{ mA}$	/	20	/	deg
Dominant Wavelength	$\lambda_d$	$I_F=20\text{ mA}$	463	468	/	nm
Peak Wavelength	$\lambda_p$	$I_F=20\text{ mA}$	465	470	/	nm
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:**

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

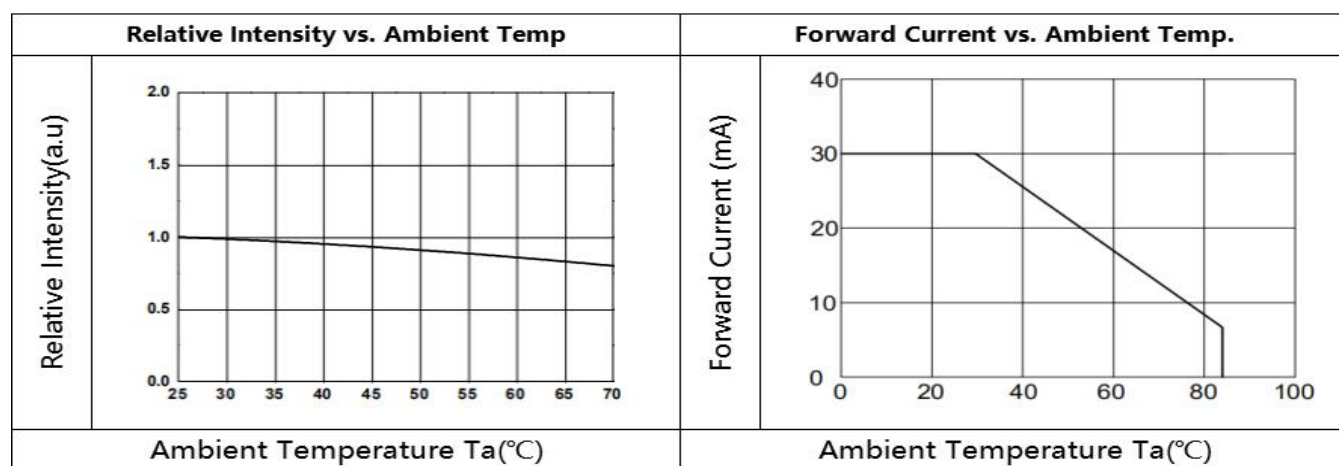
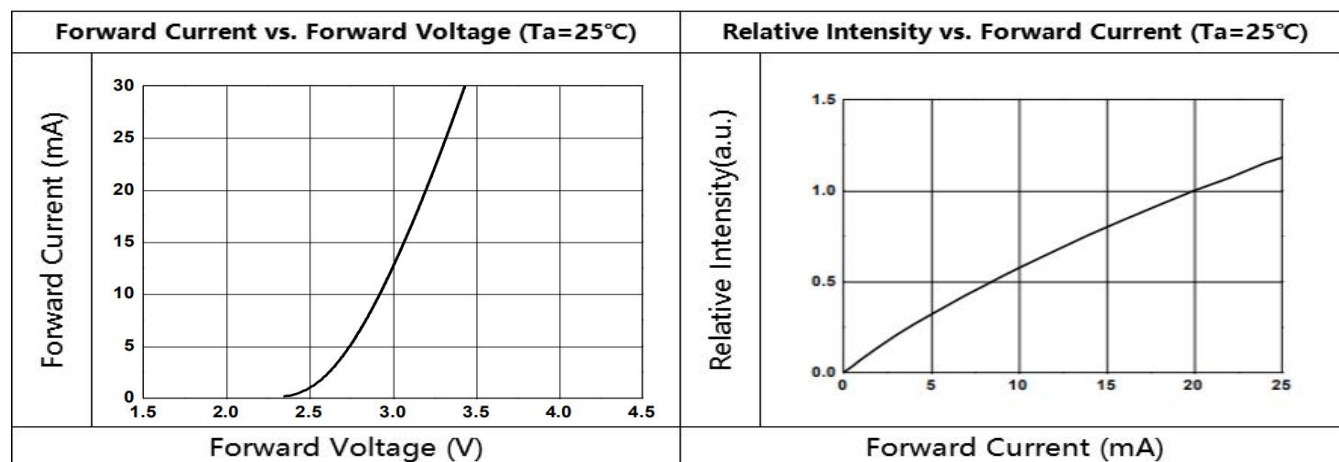
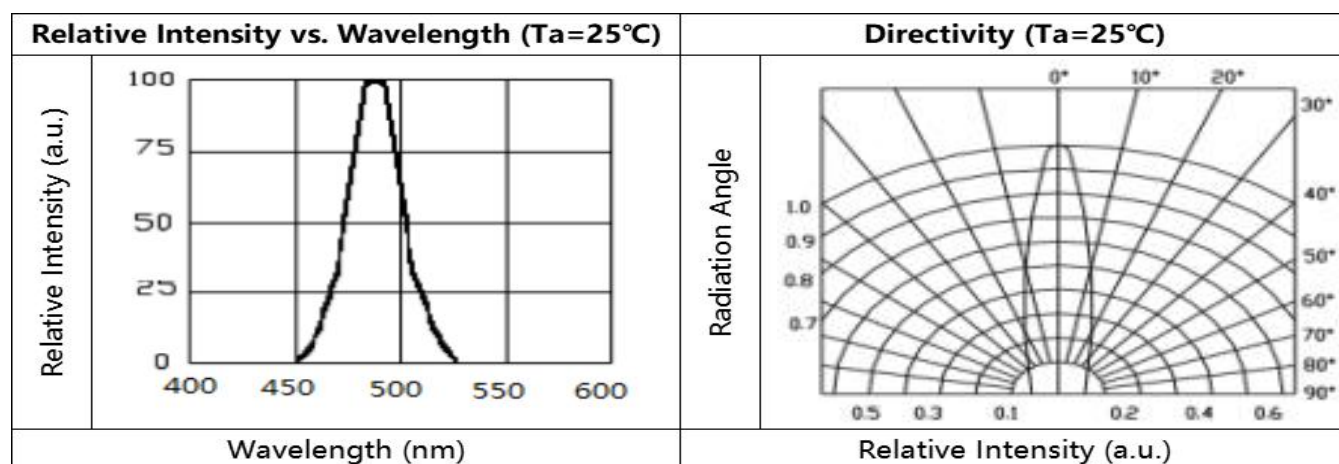
$\lambda_d$ (nm)		
Grade	Min.	Max.
2	463.0	466.5
3	465.5	468.5
4	467.5	470.5
5	469.5	472.5
6	471.5	474.5
7	473.5	476.5

## 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.

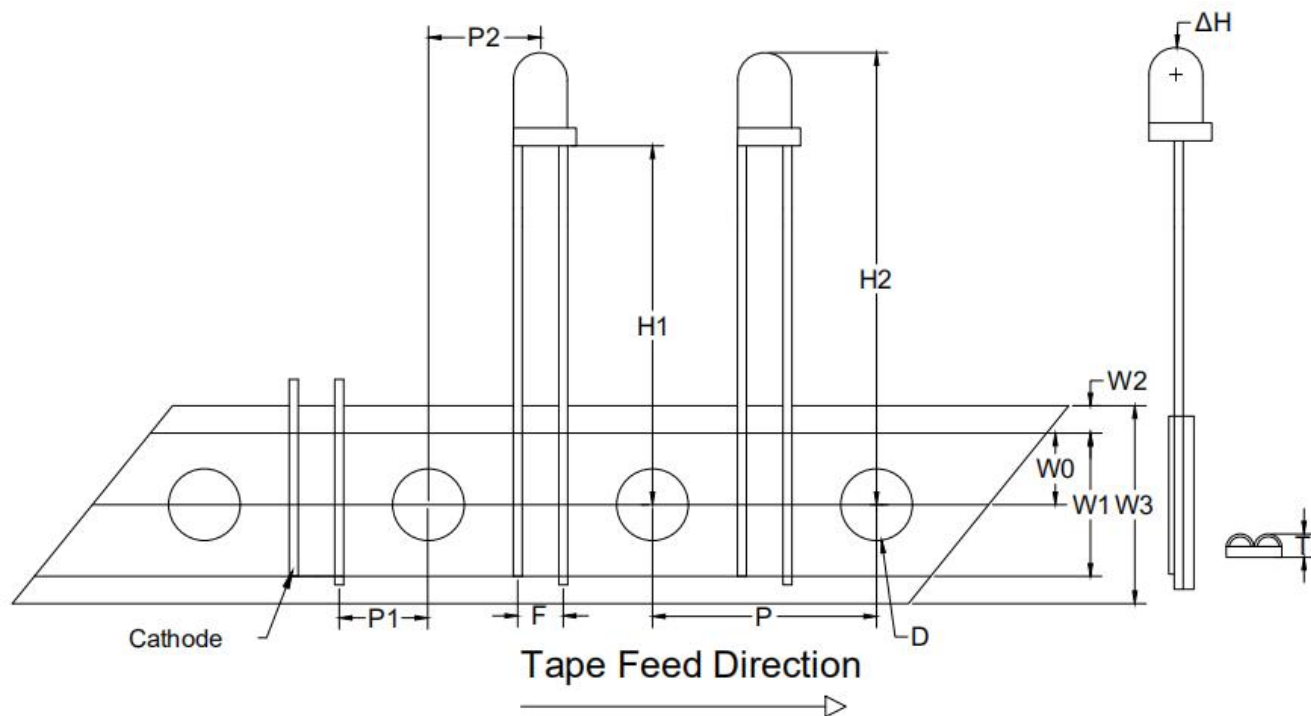
I<sub>v</sub>: The test value of the chip that has completed the reliability test

U: Upper Specification Limit

L: Lower Specification Limit

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## Carrier Tape Dimensions:



### NOTES:

Lead spacing is measured where the lead emerge from the package.

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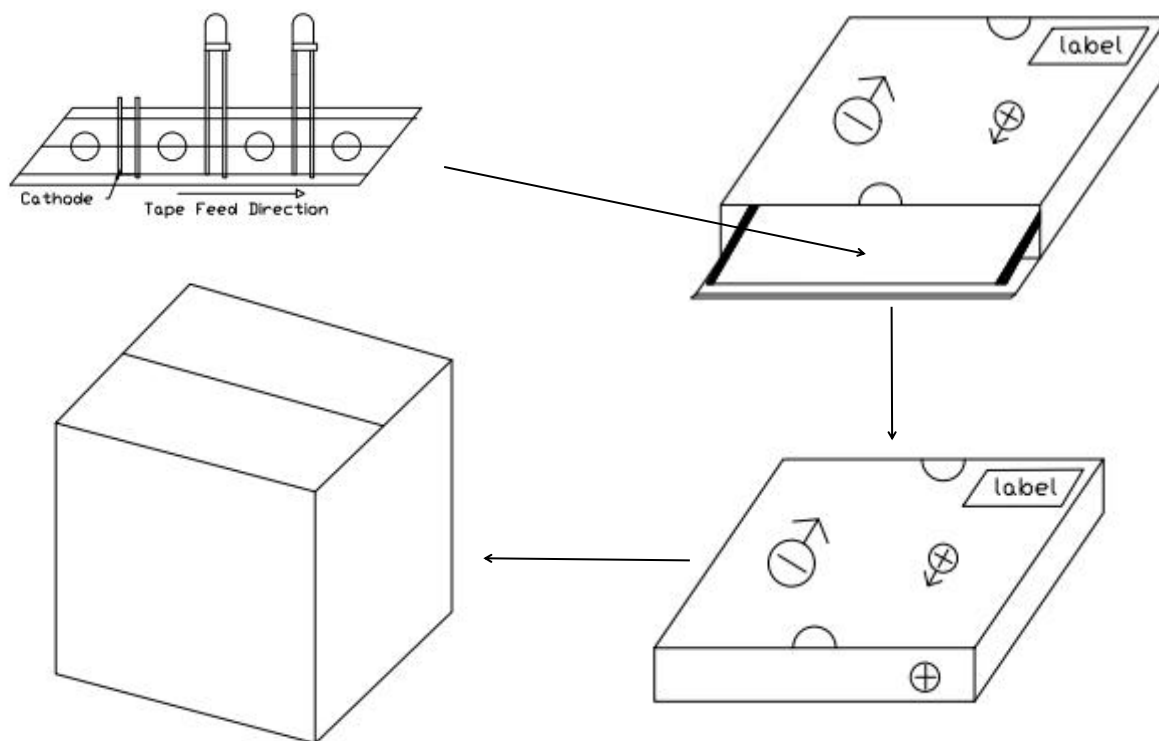
## Taping Sizes

Symbol Items	Symbol	Specifications		
		Avg.		Tolerance
		mm	Inch	(mm)
Tape Feed Hole Diameter	D	4.0	0.157	±0.2
Component Lead Pitch	F	2.54	0.100	+0.8/-0.2
Front-to-Read Deflectio	Δ H	2°	0.079	±5°
Feed Hole to Button of Component	H1	23.0	0.906	±1.0
Feed Hole to Overall Component Height	H2	31.6	1.244	±1.0
Feed Hole Pitch	P	12.5	0.492	±0.3
Lead Location	P1	5.0	0.197	±0.7
Center of Component Location	P2	6.25	0.246	±1.2
Overall Taped Package Thickness	T	1.42	0.056	MAX
Feed Hole Location	W0	6.5	0.256	±1.0
Adhesive Tape Width	W1	13	0.512	±1.0
Adhesive Tape Position	W2	2.5	0.098	MAX
Tape Width	W3	18	0.709	±1.0

Note: Tolerances unless mentioned ±0.1mm. Unit = mm

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## Packing Specification:



Packing Quantity: 2000 PCS/In-Carton, 20000PCS/Out-Carton

### Note:

After packing into the box, the head is located in the box large negative symbol upward, positive symbol facing themselves

	<b>HARVATEK</b>	
CPN:		<b>RoHs</b>
P/N:		
	HV-47B3304C-TR1-J0004	
QTY:		CAT:
		HUE:
LOT NO:		REF:

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## Revision History

Revision	Page	Version No.	Revision Date
Initial Release		1.0	04-01-2020
Modification of electrical properties	6	1.1	10-20-2020
Modification of Tape Size	11	1..2	11-24-2020
Modification of the drawing and signet	10,13	1.3	12-17-2020
Modification of Packing Instructions	13	1.4	12-23-2020

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