Harvatek 5.0mm Round LED LAMP

HV-RGB3309M-R2

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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

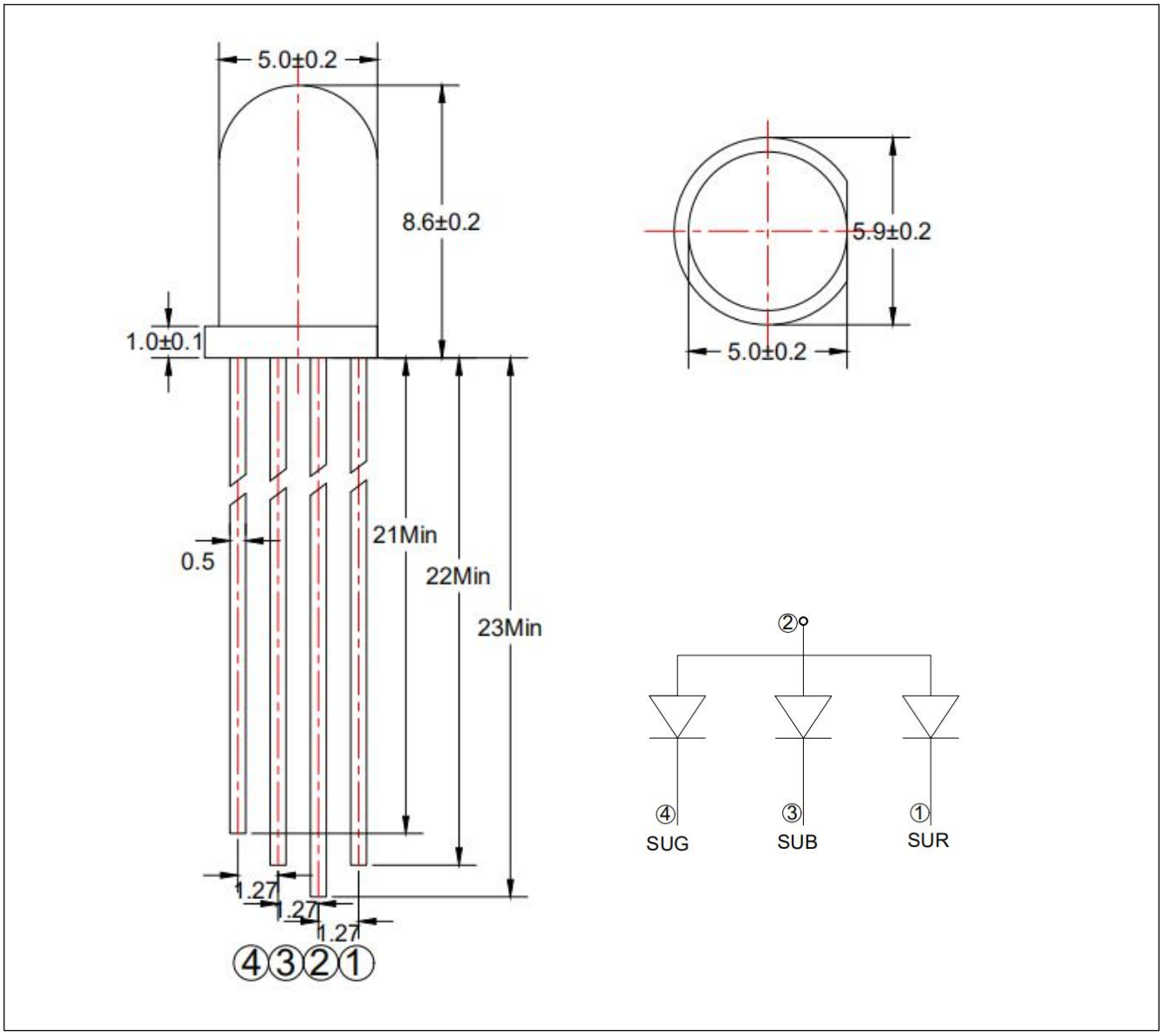
HV - RGB 3309 M - R2

Series Name	Color Code	Remark
HV : **HARVATEK**	**RGB3309:** **5.0mm Round LED LAMP,8.6mm Lens.** **AlGaInP 622nm Red chip** **InGaN 522nm Green chip** **InGaN 467nm Blue chip** **M : White Diffused** **R2: HARVATEK Part No.**	

Features:

- Stable Color
- Popular 5.0mm through hole package, 8.6mm lens height.
- White Diffused 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	R	30	mA
		G	30	
		B	30	
Operating Temperature	T_{opr}		-40to+85	℃
Storage Temperature	T_{stg}		-40to+100	℃
Soldering Temperature*1	T_{sol}		260±5	℃
Reverse Voltage	V_R	R	5	V
		G	5	
		B	5	
Power Dissipation	P_d	R	80	mW
		G	120	
		B	120	
Peak Forward Current*2	I_{FP}	R	60	mA
		G	100	
		B	100	

*1:Soldering time ≦ 5 seconds. *2Pulse Width≦ 100 μs and Duty≦ 1%.

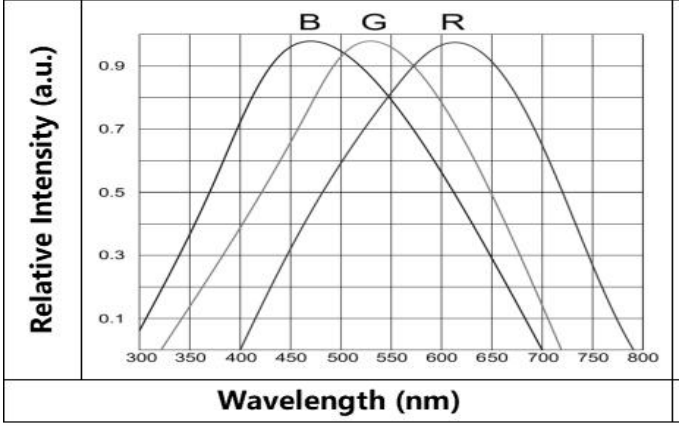
Electrical and Optical Characteristic

Parameter	Symbol		Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I_v	R	I_F=20mA	200	800	---	mcd
		G	I_F=20mA	300	1000	---	
		B	I_F=20mA	150	600	---	
Viewing Angle	2θ ½	R	I_F=20mA	---	60	---	Deg
		G	I_F=20mA	---	60	---	
		B	I_F=20mA	---	60	---	
Forward Voltage	V_F	R	I_F=20mA	---	2.0	2.6	V
		G	I_F=20mA	---	3.0	3.4	
		B	I_F=20mA	---	3.0	3.4	
Peak Emission Wavelength	λ_P	R	I_F=20mA	620	625	---	nm
		G	I_F=20mA	520	525	---	
		B	I_F=20mA	465	470	---	
Dominant Wavelength	λ_d	R	I_F=20mA	617	622	---	nm
		G	I_F=20mA	517	522	---	
		B	I_F=20mA	462	467	---	
Spectral Line Half-Width	Δλ	R	I_F=20mA	---	20	---	nm
		G	I_F=20mA	---	35	---	
		B	I_F=20mA	---	30	---	
Reverse Current	I_R	R	V_R= 5 V	---	---	10	μA
		G	V_R= 5 V	---	---	10	
		B	V_R= 5 V	---	---	10	

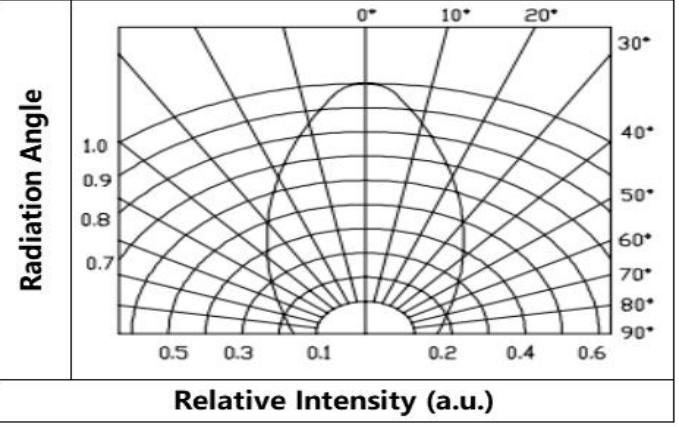
Notes:θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

Typical Electro-Optical Characteristics Curves

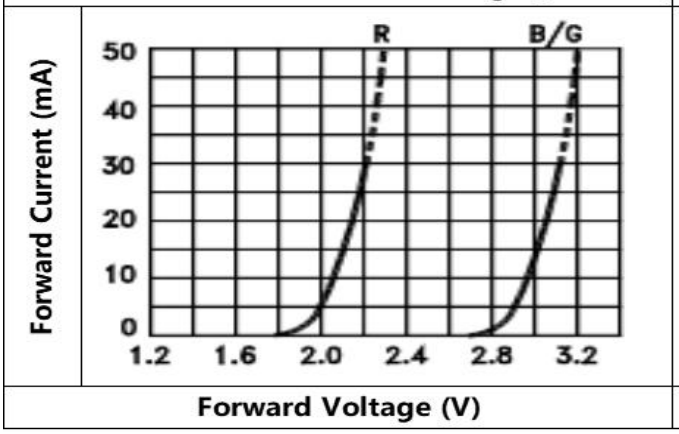
Relative Intensity vs. Wavelength (Ta=25℃)



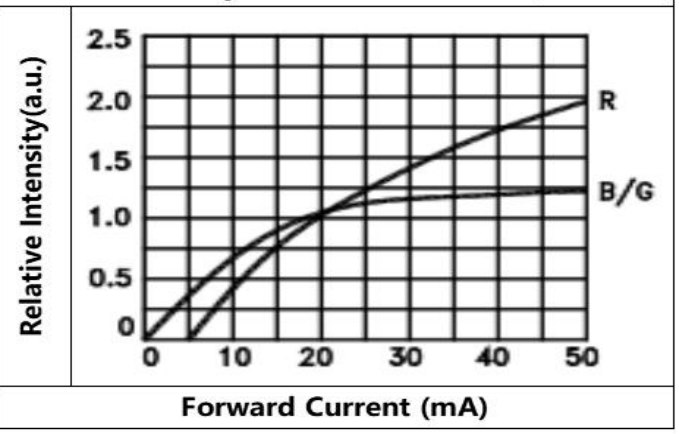
Directivity (Ta=25℃)



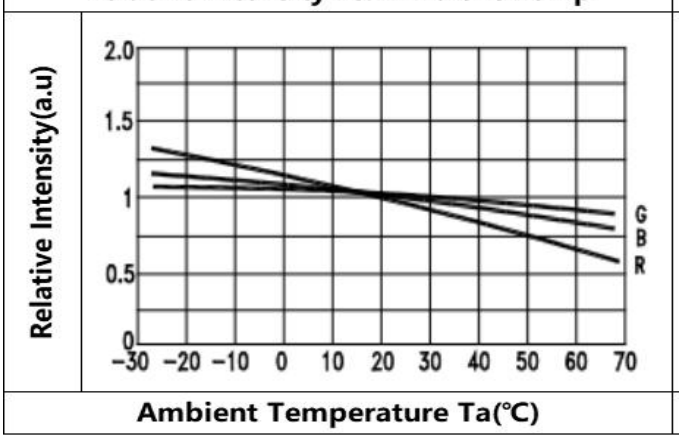
Forward Current vs. Forward Voltage (Ta=25℃)



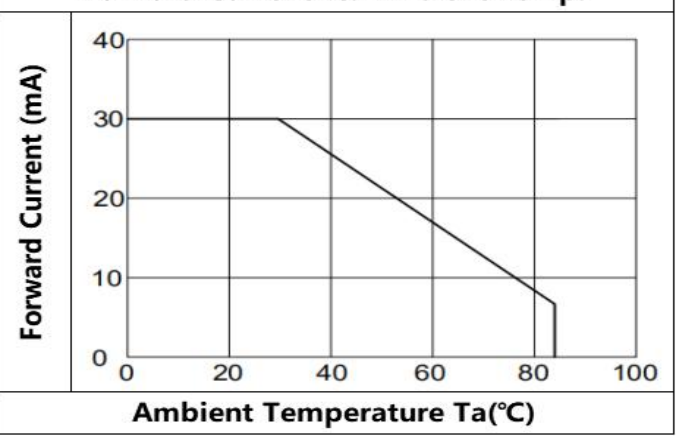
Relative Intensity vs. Forward Current (Ta=25℃)



Relative Intensity vs. Ambient Temp



Forward Current vs. Ambient Temp.



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

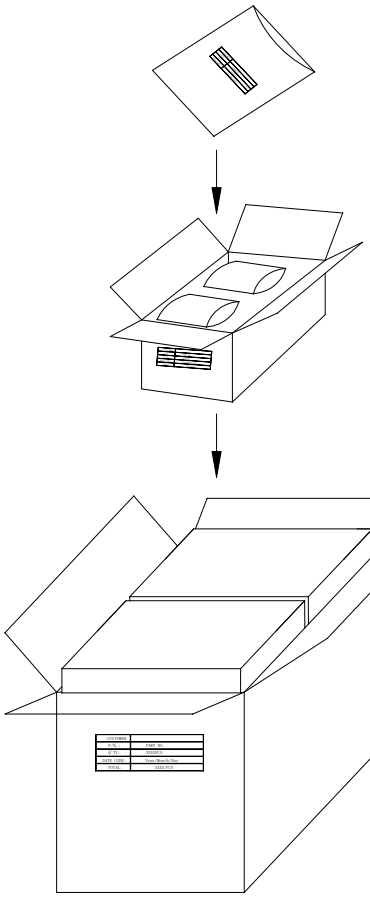
Note：Ivt：To test Iv value of the chip before the reliability test.

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

U：Upper Specification Limit

L：Lower Specification Limit

Packing Specification:



500PCS/Bag

2000PCS/In-Carton

20000PCS/Out-Carton

Revision History

Revision	Page	Version No.	Revision Date
Initial Release		1.0	11-05-2019
Revisions on drawings and Revisions electro-optical characteristics curves	4,7	1.1	10-20-2020