

**Harvatek 3.0mm Round LED LAMP with Holder****HV-I7UG50H-MP9A**

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Official Product	HV-I7UG50H-MP9A	Customer Part No.		Data Sheet No.
	*****	*****		HV-I7UG50H-MP9A
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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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	*****	*****		HV-I7UG50H-MP9A
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## Compliance and Certification

ISO9002, QS9000 and ISO14001 Certified

RoHS Compliant



## Orderable Information

H V - I7 UG 50 H - M P9 A

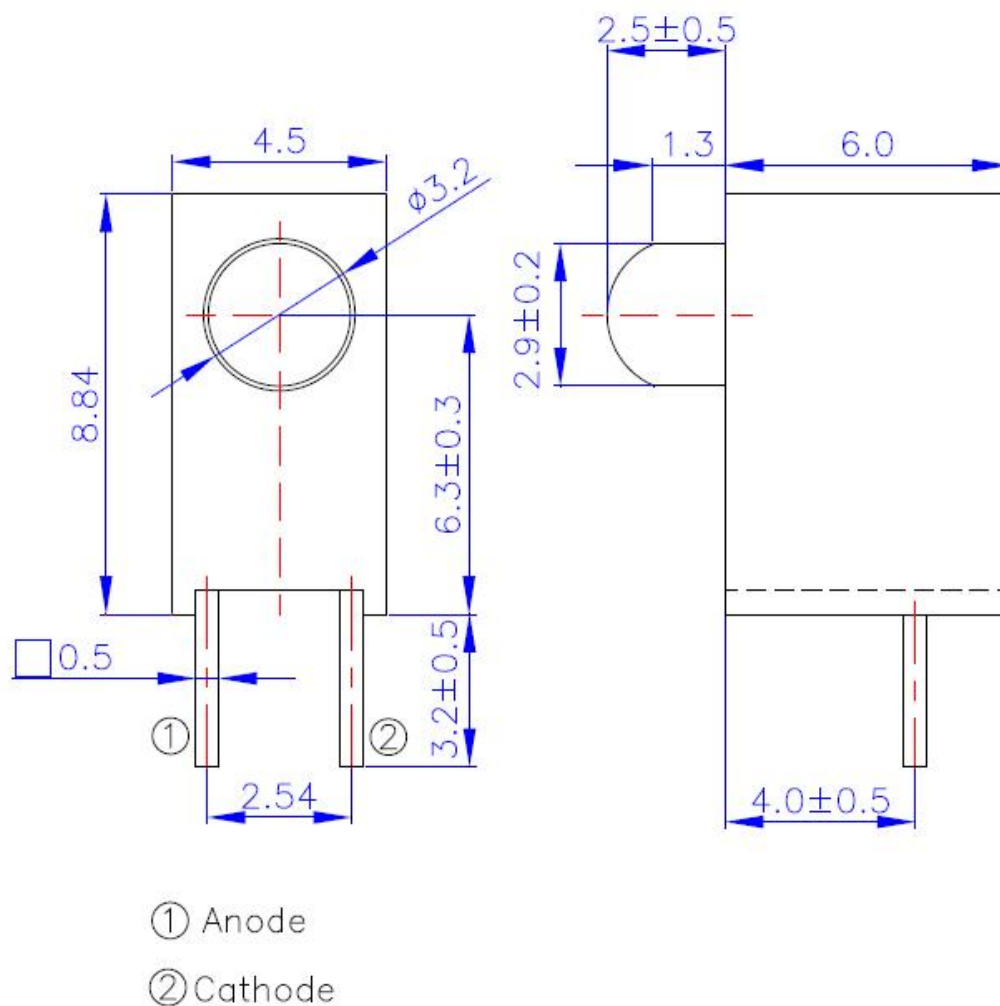
Series Name	Color Code	Remark
HV : HARVATEK	I7UG : 3.0mm Round LED Lamp With Holder. With AlGaInP 571nm Green Chip. 50 : Viewing angle 50 deg. H : HARVATEK Part No. MP9 : Square HOLDER. A : 1 LAMP	

## Features:

- Stable Color
- Popular 3.0mm through hole package.
- Green Diffused lens

Official Product	HV-I7UG50H-MP9A	Customer Part No.	Data Sheet No.
	*****	*****	HV-I7UG50H-MP9A
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Nov. 11 2019	Page 3/11

## Package Dimensions:



## Notes:

- 1.All dimensions are millimeters.
- 2.Tolerance is  $\pm 0.25$ mm unless otherwise noted.
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Official Product	HV-I7UG50H-MP9A	Customer Part No.	Data Sheet No.
	*****	*****	HV-I7UG50H-MP9A
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Nov. 11 2019	Version of 1.1	Page 4/11

**Absolute Maximum Ratings at Ta=25°C**

Parameter	Symbol	Rating	Unit
Forward Current	I <sub>F</sub>	30	mA
Operating Temperature	T <sub>opr</sub>	-40to+85	°C
Storage Temperature	T <sub>stg</sub>	-40to+100	°C
Soldering Temperature*1	T <sub>sol</sub>	260±5	°C
Power Dissipation	P <sub>d</sub>	75	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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	*****	*****		HV-I7UG50H-MP9A
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Nov. 11 2019	Version of 1.1	Page 5/11

## Electrical and Optical Characteristic

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$	$I_F=20\text{ mA}$	/	2.0	2.5	V
Reverse Current	$I_R$	$V_R=5\text{ V}$	/	/	10	$\mu\text{A}$
Luminous Intensity	$I_v$	$I_F=20\text{ mA}$	20	72	300	mcd
Viewing Angle	$2\theta_{1/2}$	$I_F=20\text{ mA}$	/	50	/	deg
Dominant Wavelength	$\lambda_d$	$I_F=20\text{ mA}$	566	571	576	nm
Peak Wavelength	$\lambda_p$	$I_F=20\text{ mA}$	569	574	/	nm
Spectrum Radiation Bandwidth	$\Delta\lambda$	$I_F=20\text{ mA}$	/	25	/	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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	*****	*****	HV-I7UG50H-MP9A
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		Page 6/11	

**Specifications for Bin Grading:**

I <sub>v</sub> (mcd)		
Grade	Min.	Min.
M	20	32
N	25	50
P	40	80
Q	63	125
R	100	200
S	160	300

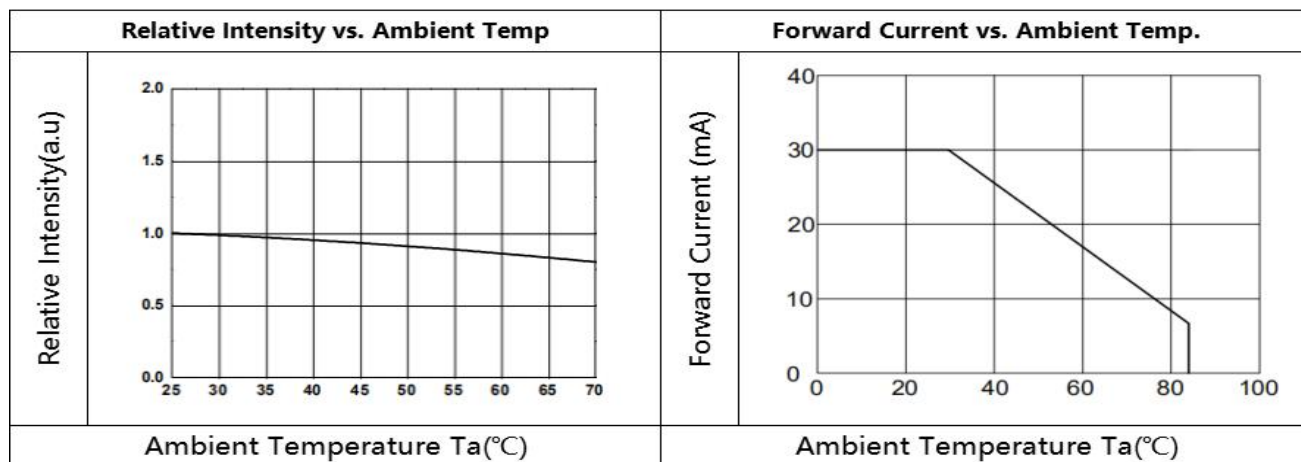
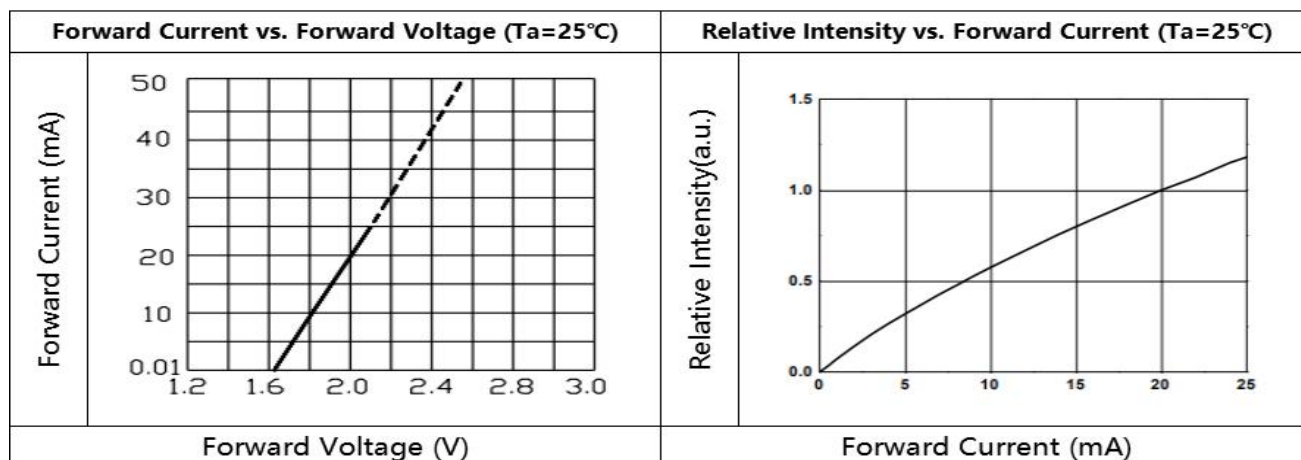
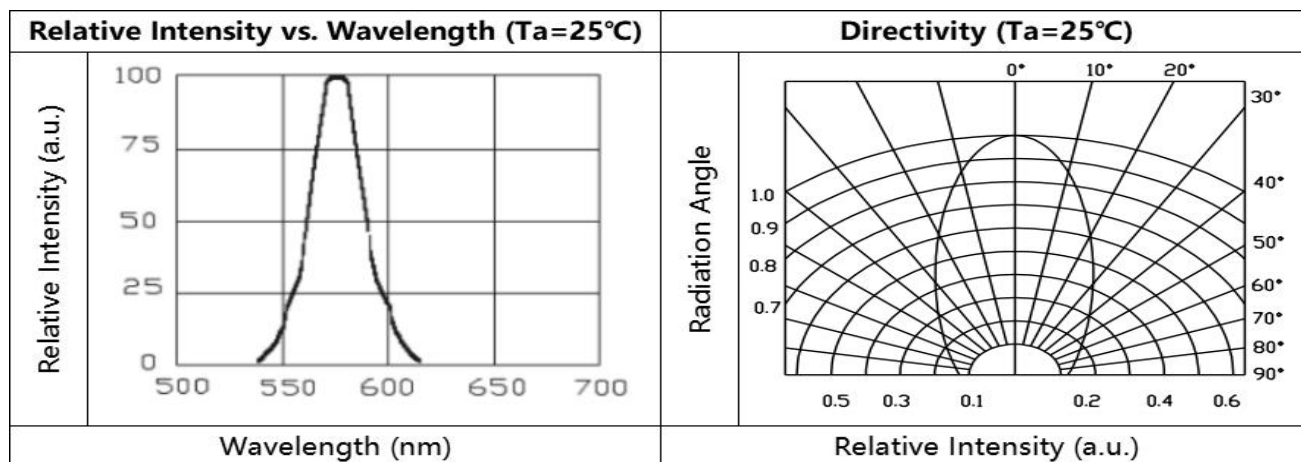
$\lambda$ d (nm)		
Grade	Min.	Max.
5	566	569
6	568	571
7	570	573
8	572	575
9	574	576

## Notes:

- 1.Luminous intensity: +/-15%.
- 2.Wavelength: +/-1nm

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	*****	*****		HV-I7UG50H-MP9A
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Nov. 11 2019	Version of 1.1	Page 7/11

## Typical Electro-Optical Characteristics Curves



Official Product	HV-I7UG50H-MP9A	Customer Part No.	Data Sheet No.
	*****	*****	HV-I7UG50H-MP9A
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Nov. 11 2019	Version of 1.1
			Page 8/11

### 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.

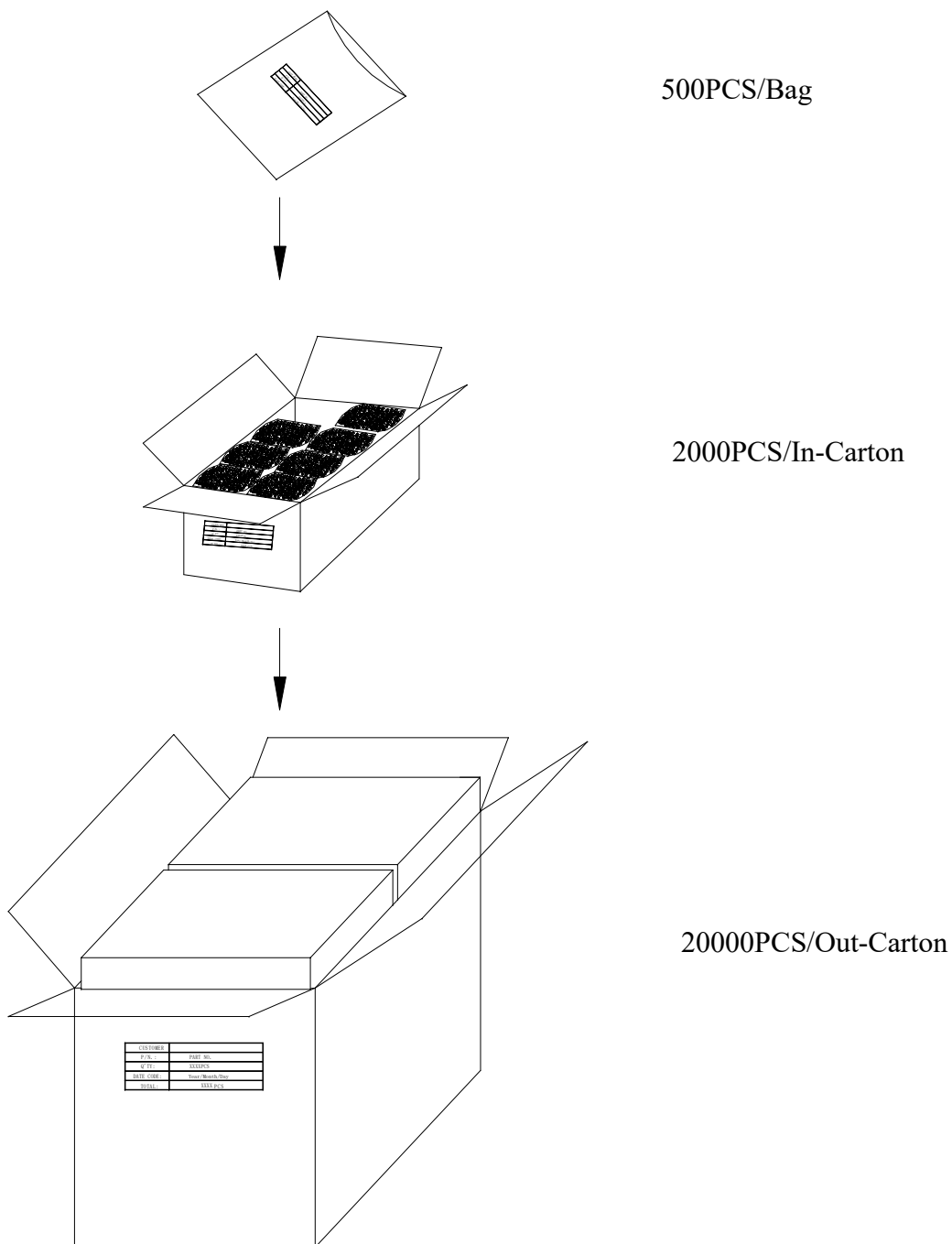
$I_v$ : The test value of the chip that has completed the reliability test

U: Upper Specification Limit

L: Lower Specification Limit

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	*****	*****		HV-I7UG50H-MP9A
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Nov. 11 2019	Version of 1.1	Page 9/11

## Packing Specification:



Official Product	HV-I7UG50H-MP9A	Customer Part No.	Data Sheet No.
	*****	*****	HV-I7UG50H-MP9A
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Nov. 11 2019	Page 10/11

**Revision History**

Revision	Page	Version No.	Revision Date
Initial Release		1.0	11-10-2017
Modifies Dominant Wavelength	6	1.1	11-11-2019

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Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Nov. 11 2019	Version of 1.1	Page 11/11