

Harvatek 3.0mm Round LED LAMP with Holder
HV-I7US50H-MP9A

Official Product	HV-I7US50H-MP9A	Customer Part No.	Data Sheet No.
	*****	*****	HV-I7US50H-MP9A
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Nov. 11 2019	Version of 1.2	Page 1/11

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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 - I7 US 50 H - M P9 A

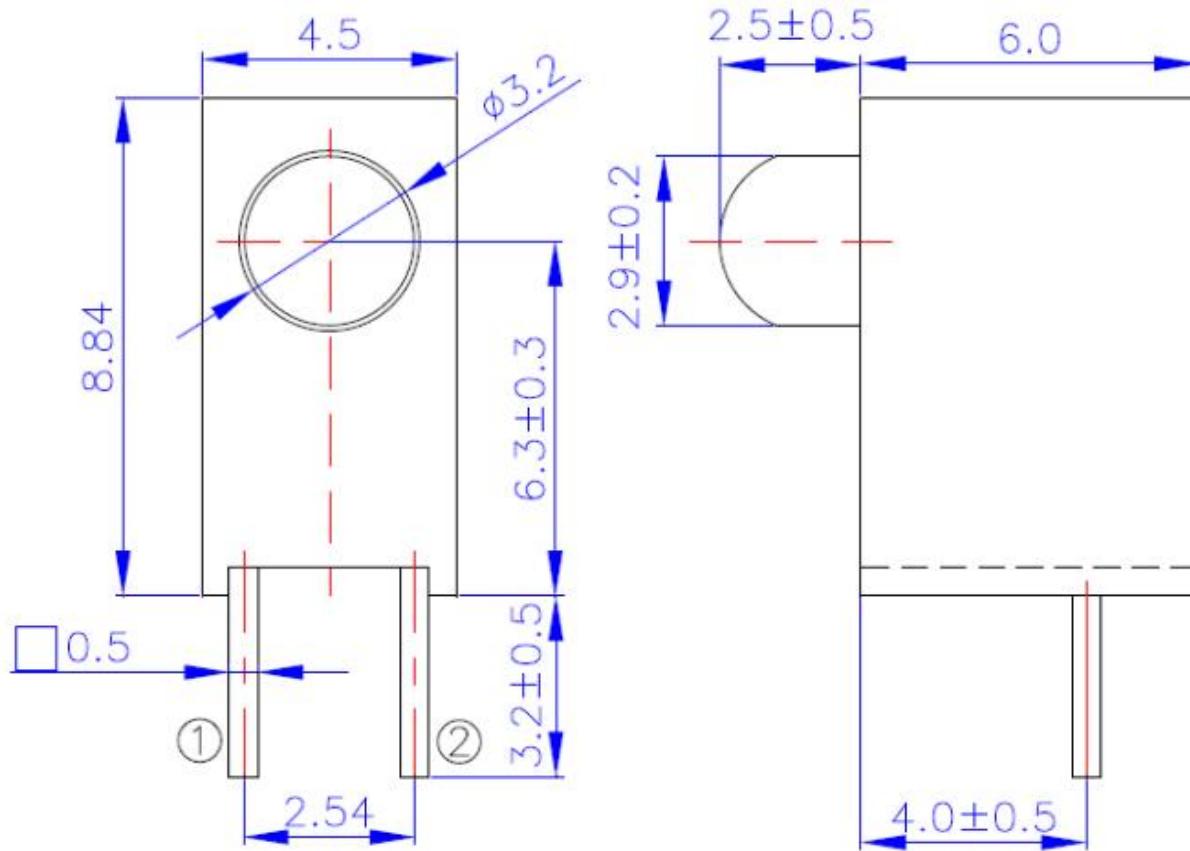


Series Name	Color Code	Remark
HV : HARVATEK	I7US : 3.0mm Round LED Lamp With Holder. With AlGaInP 625nm Red Chip. 50 : Viewing angle 50 deg. H : HARVATEK Part No. MP9 : Square HOLDER. A : 1 LAMP	

Features:

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

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Package Dimensions:

① Anode

② Cathode

Notes:

1. All dimensions are millimeters.
2. Tolerance is $+\/-0.25\text{mm}$ unless otherwise noted.
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Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Forward Current	I _F	30	mA
Operating Temperature	Topr	-40 to +85	°C
Storage Temperature	T _{stg}	-40 to +100	°C
Soldering Temperature*1	T _{sol}	260±5	°C
Power Dissipation	P _d	75	mW
Reverse Voltage	V _R	5	V
Peak Forward Current*2	I _{FP}	0.1	A

*1:Soldering time \leq 5 seconds. *2:Pulse Width \leq 100 μ s and Duty \leq 1%

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Electrical and Optical Characteristic

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F=20$ mA	/	2.0	2.5	V
Reverse Current	I_R	$V_R= 5$ V	/	/	10	μ A
Luminous Intensity	I_V	$I_F=20$ mA	60	180	7200	mcd
Viewing Angle	$2\theta_{1/2}$	$I_F=20$ mA	/	50	/	deg
Dominant Wavelength	λ_d	$I_F=20$ mA	618	625	632	nm
Peak Wavelength	λ_p	$I_F=20$ mA	627	632	/	nm
Spectrum Radiation Bandwidth	$\Delta\lambda$	$I_F=20$ 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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Specifications for Bin Grading:

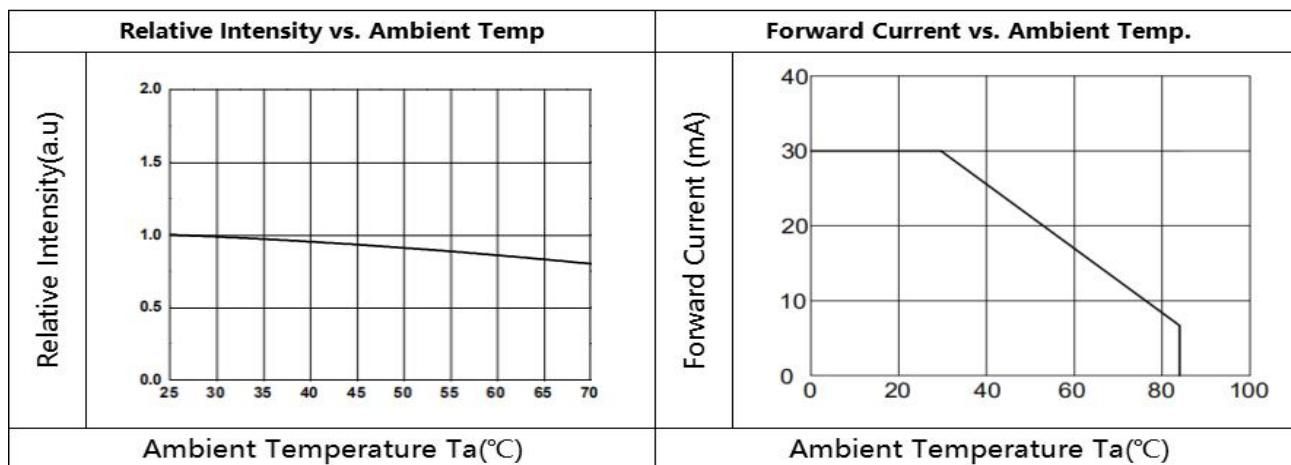
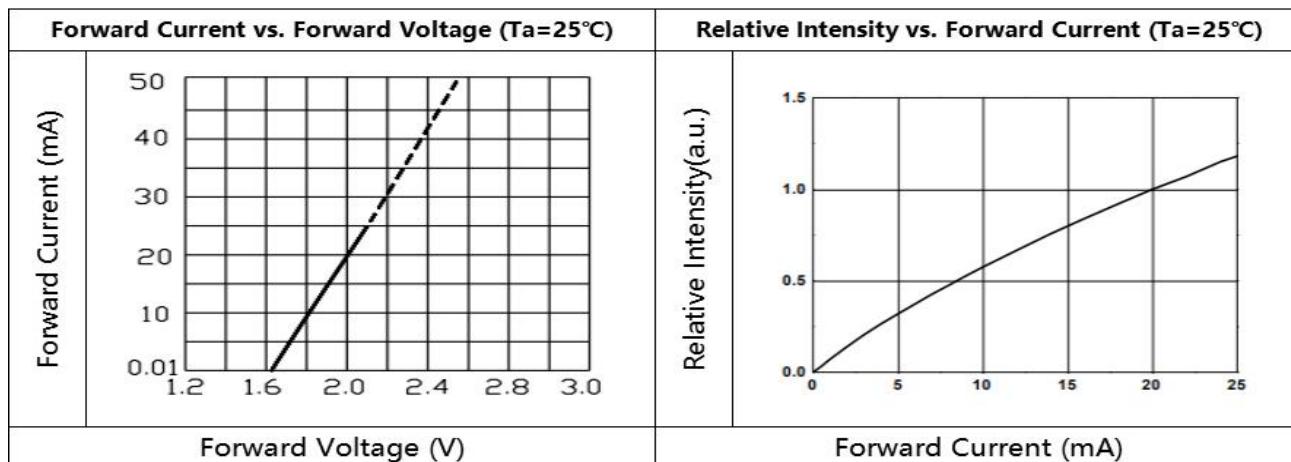
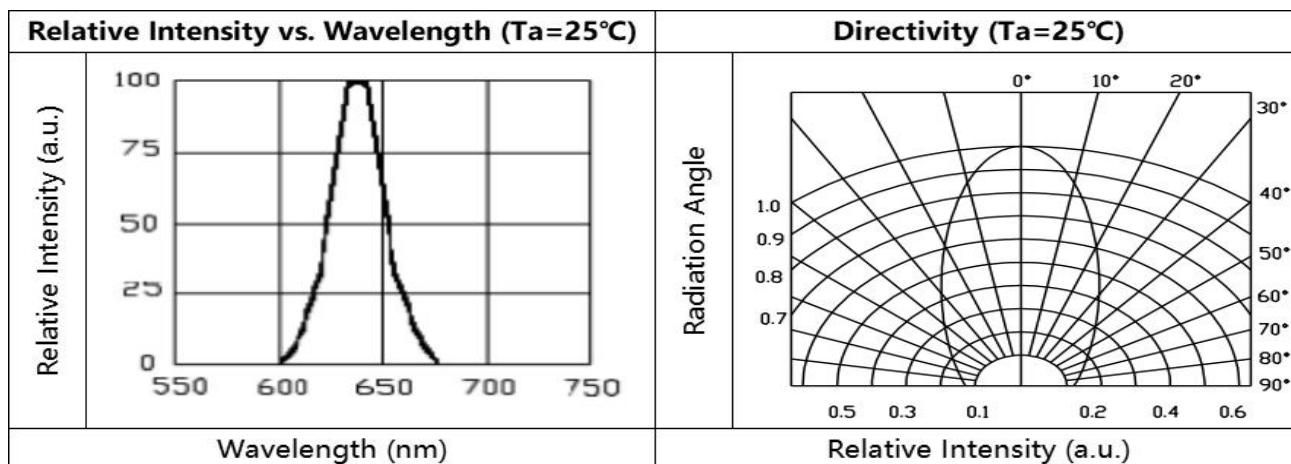
I _v (mcd)		
Grade	Min.	Max.
Q	63	125
R	100	200
S	160	320
T	250	500
U	400	800
V	630	1250
W	1000	2000
X	1600	3200
Y	2500	4500
Z	3900	8500

λ d (nm)		
Grade	Min.	Max.
01	618	621
1	620	623
2	622	625
3	624	627
4	626	629
5	628	631

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	$Iv \leq Ivt * 0.5$ or $Vf \leq U$ or $Vf \leq L$	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

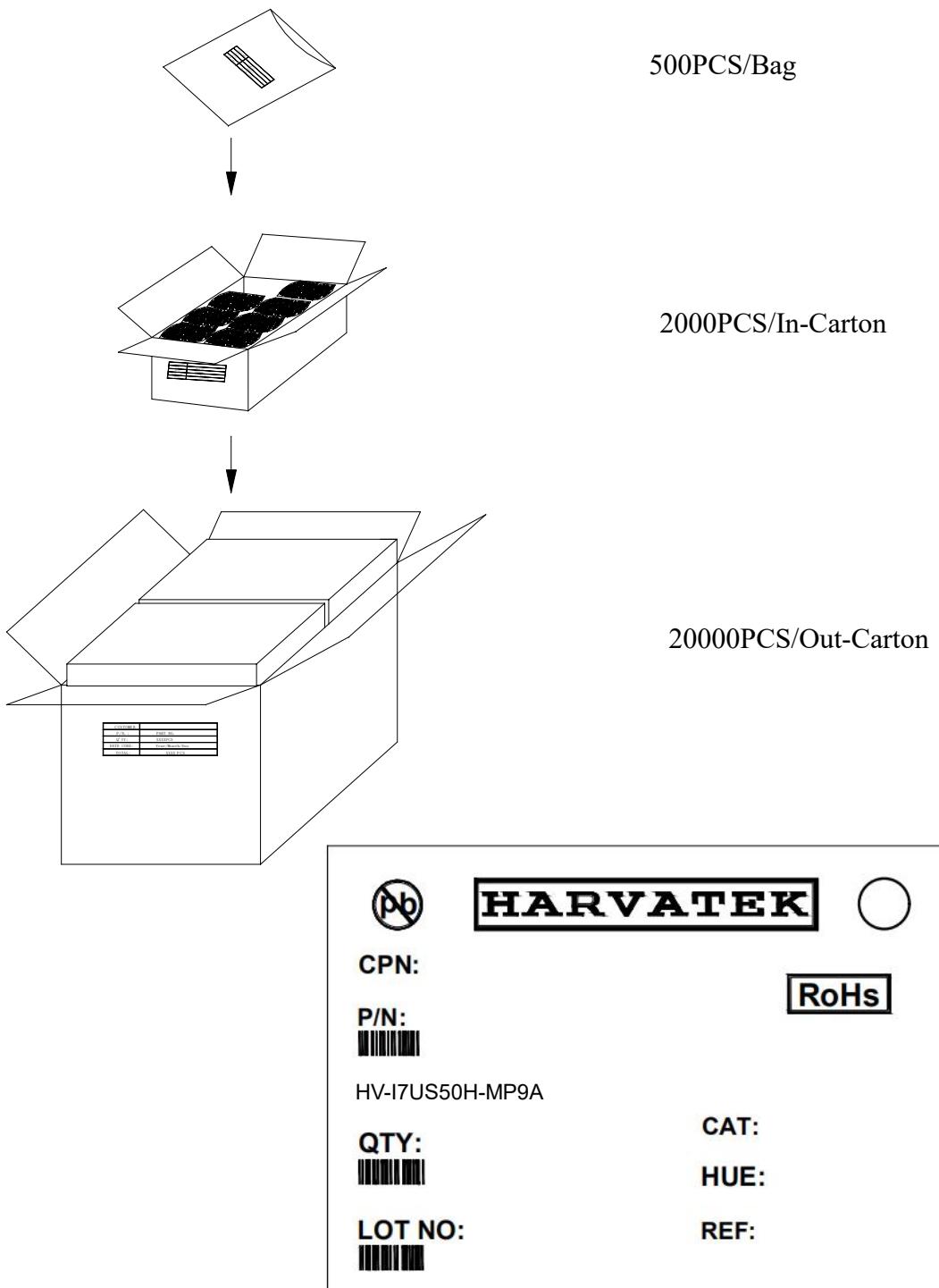
Note: Iv_t: To test Iv value of the chip before the reliability test.

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

U: Upper Specification Limit

L: Lower Specification Limit

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Packing Specification:

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Revision History

Revision	Page	Version No.	Revision Date
Initial Release		1.0	12-14-2017
Modifies Dominant Wavelength	6	1.1	11-11-2018
Modifies Dominant Wavelength	6	1.2	11-11-2019

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