Harvatek 5.0mm Tower Shape IR LED LAMP

HV-85I1013C

DISCLAIMER

HARVATEK reserves the right to make changes without further notice to any products herein to improve reliability, function or design. HARVATEK does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights, nor the rights of others.

LIFE SUPPORT POLICY

HARVATEK's products are not authorized for use as critical components in life support devices or systems without the express written approval of the President of HARVATEK or HARVATEK INTERNATIONAL. As used herein:

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

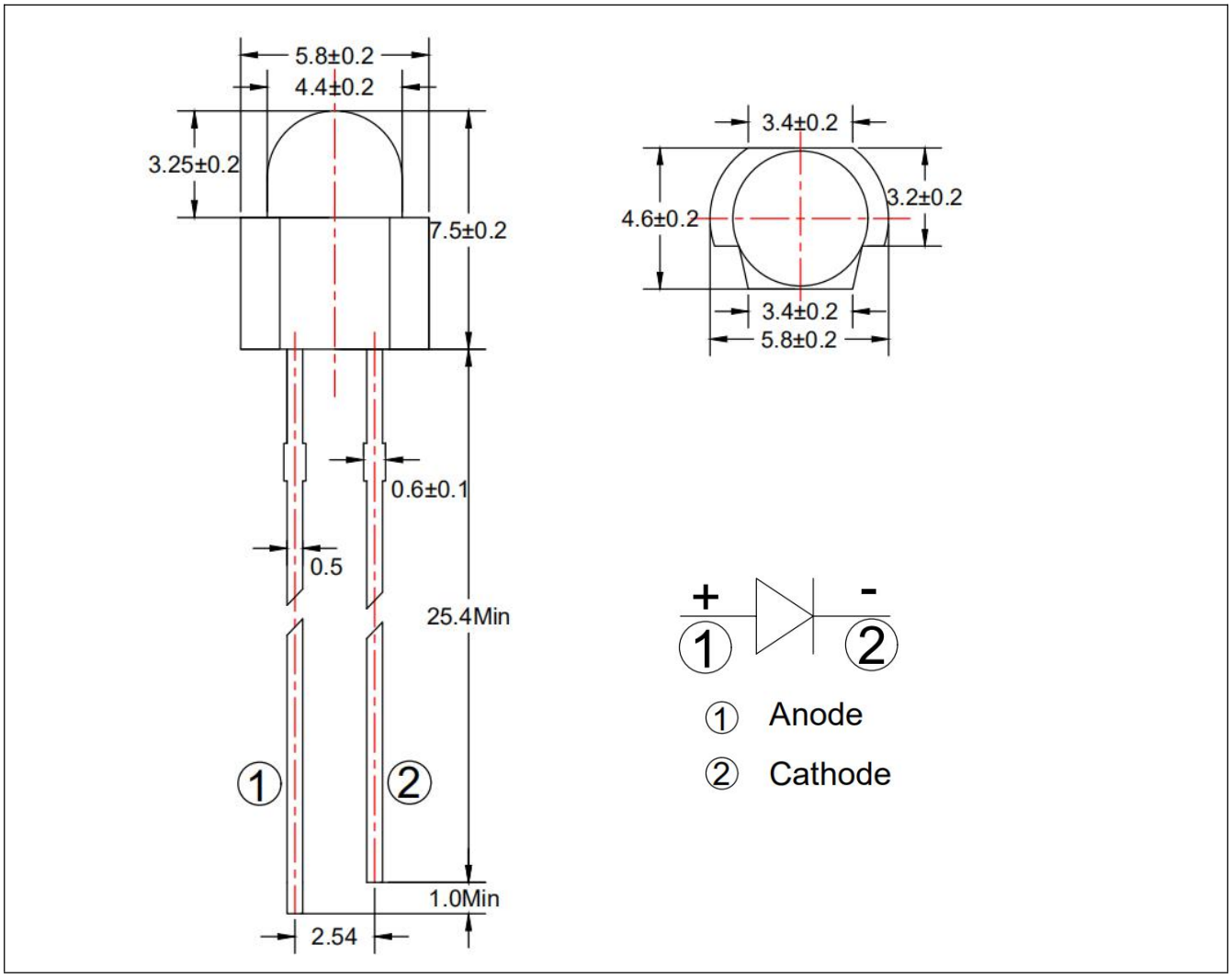
HV - 85 I 1013 C

Series Name	Color Code	Remark
HV : **HARVATEK**	**85I:** **850nm AlGaAs IR Chip.** **1013:** **5.8mm Tower Shape Lamp, 7.5mm Lens.** **C: Water Clear**	

Features:

- Stable Color
- Popular 5.8mm through hole package,7.5mm lens height.
- Water Clear 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	50	mA
Operating Temperature	T_{opr}	-40to+85	℃
Storage Temperature	T_{stg}	-40to+100	℃
Soldering Temperature*1	T_{sol}	260±5	℃
Power Dissipation	P_d	75	mW
Reverse Voltage	V_R	5	V
Peak Forward Current*2	I_{FP}	200	mA

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

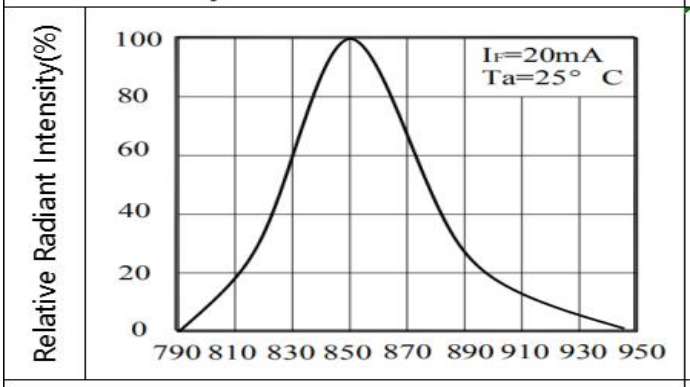
Electrical and Optical Characteristic

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F=50 mA	/	1.5	/	V
Reverse Current	I_R	V_R= 5 V	/	/	100	μA
Luminous Intensity	I_V	I_F=50 mA	180	270	/	mW/sr
Viewing Angle	$2\theta_{1/2}$	I_F=50 mA	/	10	/	deg
Peak Wavelength	λρ	I_F=50 mA	845	850	/	nm
Spectrum Radiation Bandwidth	Δλ	I_F=50 mA	/	45	/	nm

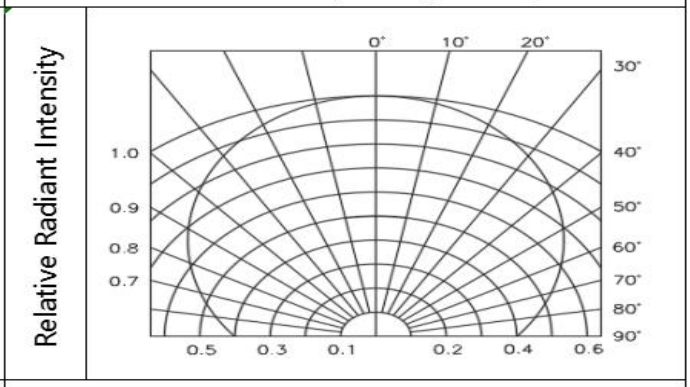
Notes:θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

Typical Electro-Optical Characteristics Curve

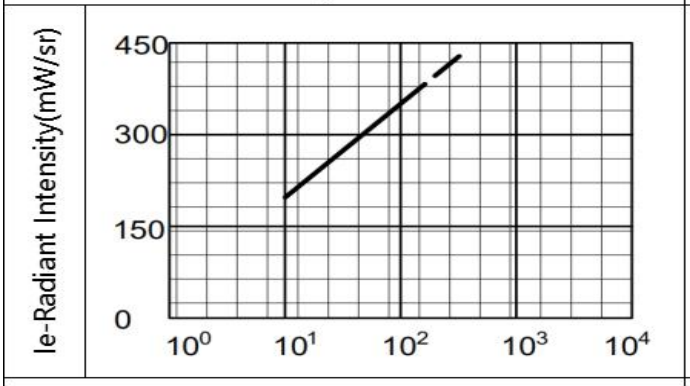
Spectral Distribution



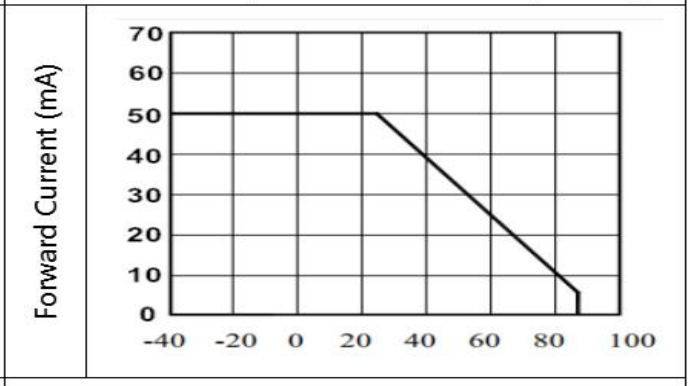
Relative Radiant Intensity vs.Angular Displacement



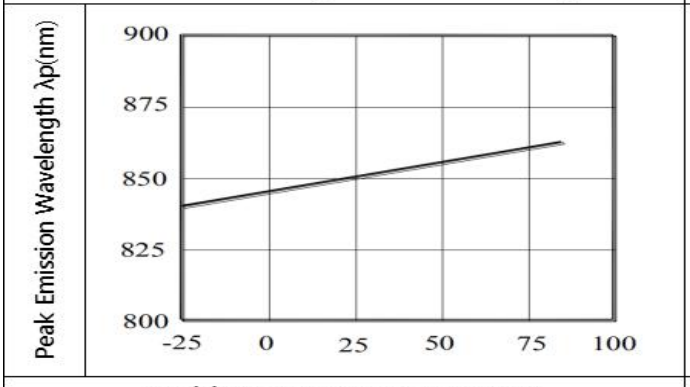
Relative Intensity vs.Forward Current



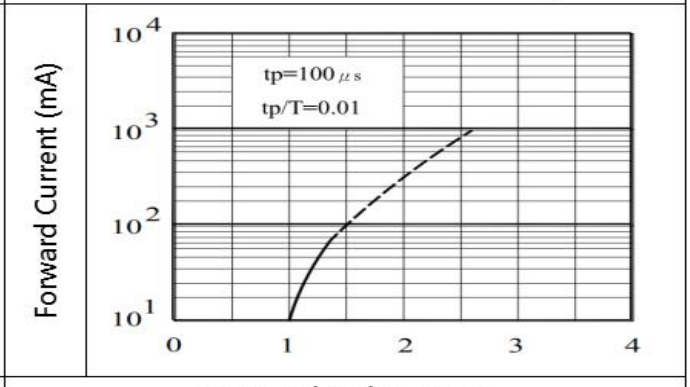
Relative Intensity vs. Forward Current (Ta=25℃)



Peak Emission Wavelength vs.Ambient Temperature



Forward Current vs.Forward Voltage



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

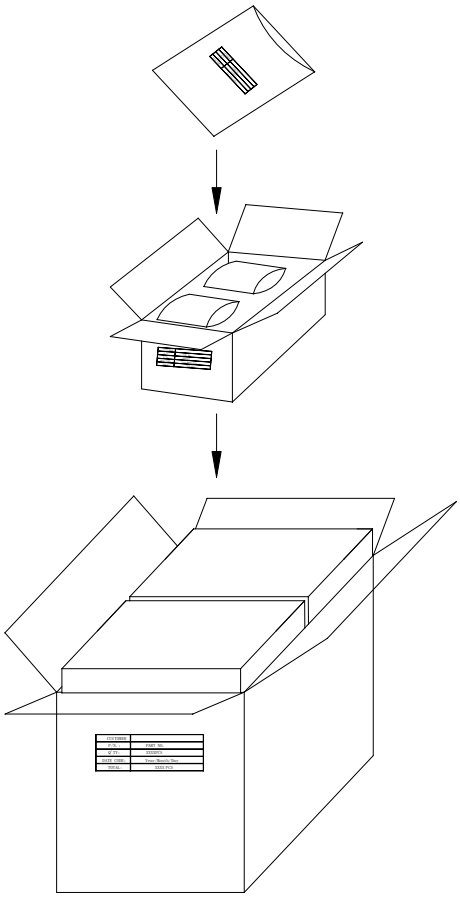
Note：Ivt：To test Iv value of the chip before the reliability test.

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

U：Upper Specification Limit

L：Lower Specification Limit

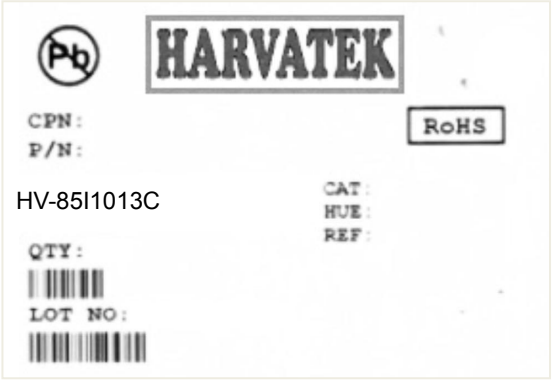
Packing Specification:



1000PCS/Bag

4000PCS/In-Carton

40000PCS/Out-Carton



Revision History

Revision	Page	Version No.	Revision Date
Initial Release		1.0	11-04-2019