Harvatek 5.14*3.65*6.95mm OVAL IR LED LAMP

HV-94I53T3C

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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

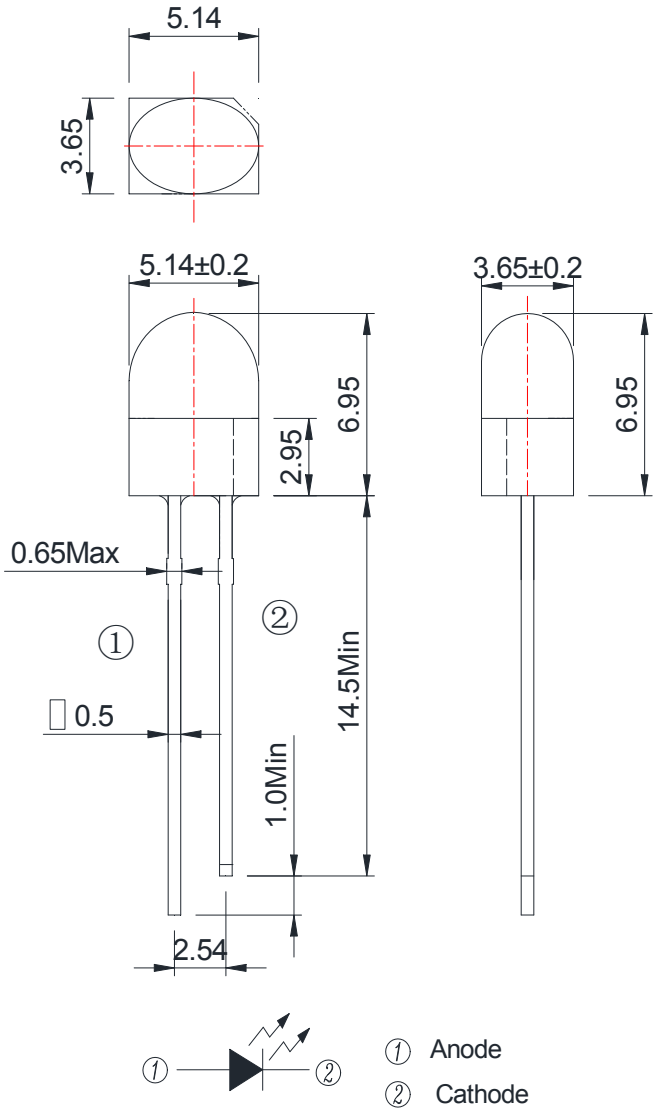
H V - 9 4 I 53T 3 C

Series Name	Color Code	Remark
HV : **HARVATEK**	**94I:** **940nm AlGaAs IR Chip.** **53T3:** **5.14*3.65*6.95mm OVAL LAMP.** **C : Water Clear.**	

Features:

- Stable Color
- Popular 5.14*3.65*6.95mm through hole package, 6.95mm 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	100	mA
Operating Temperature	Topr	-25to+85	℃
Storage Temperature	Tstg	-25to+85	℃
Soldering Temperature*1	Tsol	260	℃
Power Dissipation	Pd	150	mW
Reverse Voltage	V_R	5	V
Peak Forward Current*2	I_{FP}	0.8	A

*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=20 mA	/	1.2	1.5	V
Reverse Current	I_R		V_R= 5 V	/	/	10	μA
Radiant Intensity	Ie		I_F=20mA	/	15	/	mW/sr
			I_F=100mA	/	75	/	
Viewing Angle	$2\theta_{1/2}$	X	I_F=20 mA	/	60	/	deg
		Y		/	25	/	
Peak Wavelength	λρ		I_F=20 mA	930	940	/	nm
Spectrum Radiation Bandwidth	Δλ		I_F=20 mA	/	45	/	nm

Notesθ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

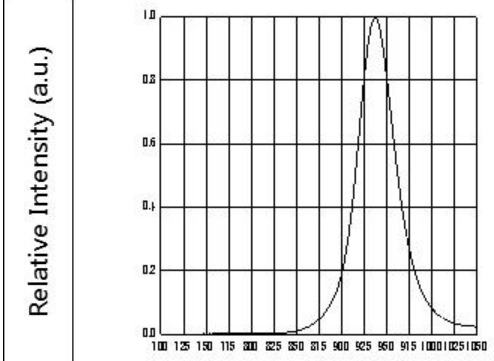
Specifications for Bin Grading:

Ie (mW/sr) (20mA)					
Grade	Min.	Max.	Grade	Min.	Max.
L-15	9.6	15.6	M-19	12.8	20.4
L-16	10.4	16.8	M-20	13.6	21.6
L-17	11.2	18.0.	N-21	14.4	22.8
M-18	12.0	19.2	N-22	15.2	24.0

Notes:Radiant Intensity:+/-15%.

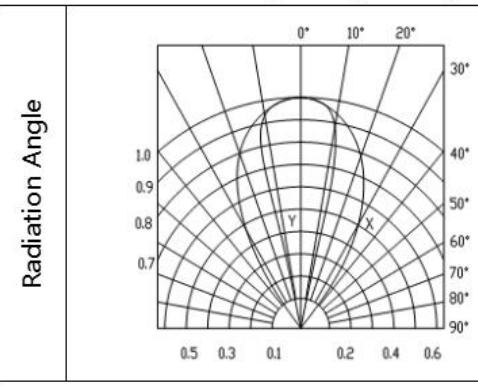
Typical Electro-Optical Characteristics Curves

Spectral Distribution



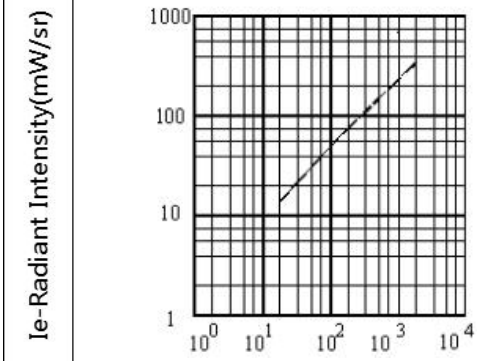
Wavelength (nm)

Relative Radiant Intensity vs. Angular Displacement



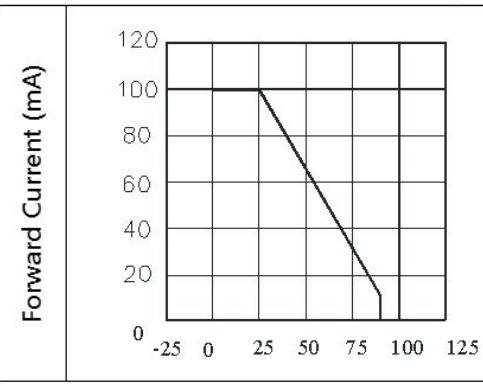
Radiation Diagram

Relative Intensity vs.Forward Current



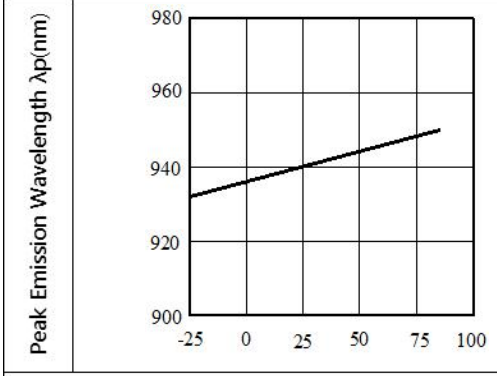
IF-Forward Current (mA)

Forward Current vs. Ambient Temp.



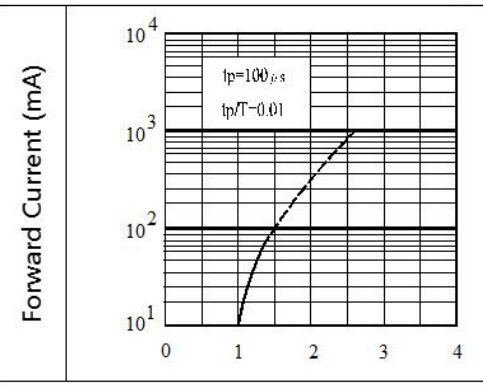
Ambient Temperature Ta(℃)

Peak Emission Wavelength vs.Ambient Temperature



Ambient Temperature Ta(℃)

Forward Current vs. Forward Voltage



Forward Voltage (V)

◆ 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 V_f≧U or V_f≦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

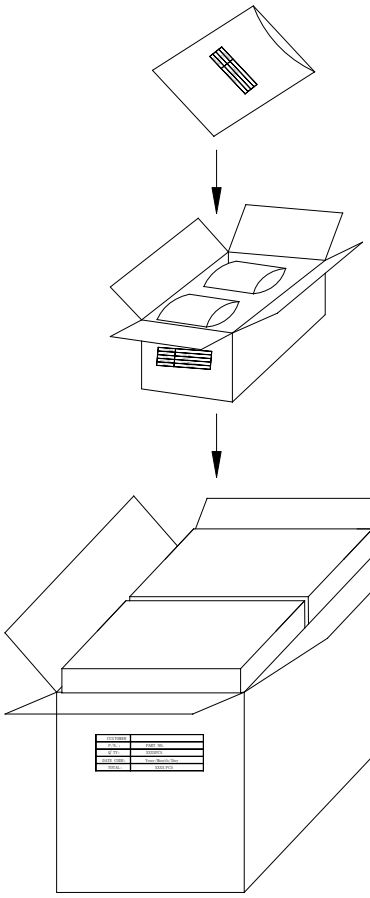
Note：Ivt：To test Iv value of the chip before the reliability test.

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

U：Upper Specification Limit

L：Lower Specification Limit

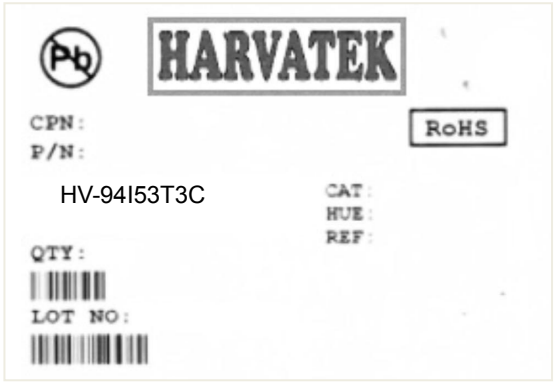
Packing Specification:



1000PCS/Bag

5000PCS/In-Carton

50000PCS/Out-Carton



Revision History

Revision	Page	Version No.	Revision Date
Initial Release		1.0	09-11-2019
Modifies Peak Wavelength	6	1.1	11-11-2019