

Harvatek 3.0mm Round LED LAMP with Holder**HV-A1394B/SURSYGSUB**

Official Product	HV-A1394B/SURSYGSUB	Customer Part No.	Data Sheet No.
	*****	*****	CDAE-020-359
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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.

Official Product	HV-A1394B/SURSYGSUB	Customer Part No.		Data Sheet No.
	*****	*****		CDAE-020-359
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Oct. 30 2018	Version of 1.0	Page 2/12

Compliance and Certification

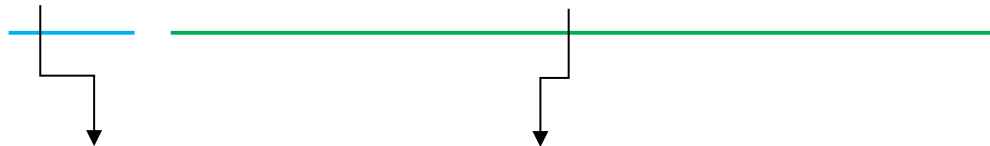
ISO9002, QS9000 and ISO14001 Certified

RoHS Compliant



Orderable Information

H V - A 1394B / SURSYGSUB



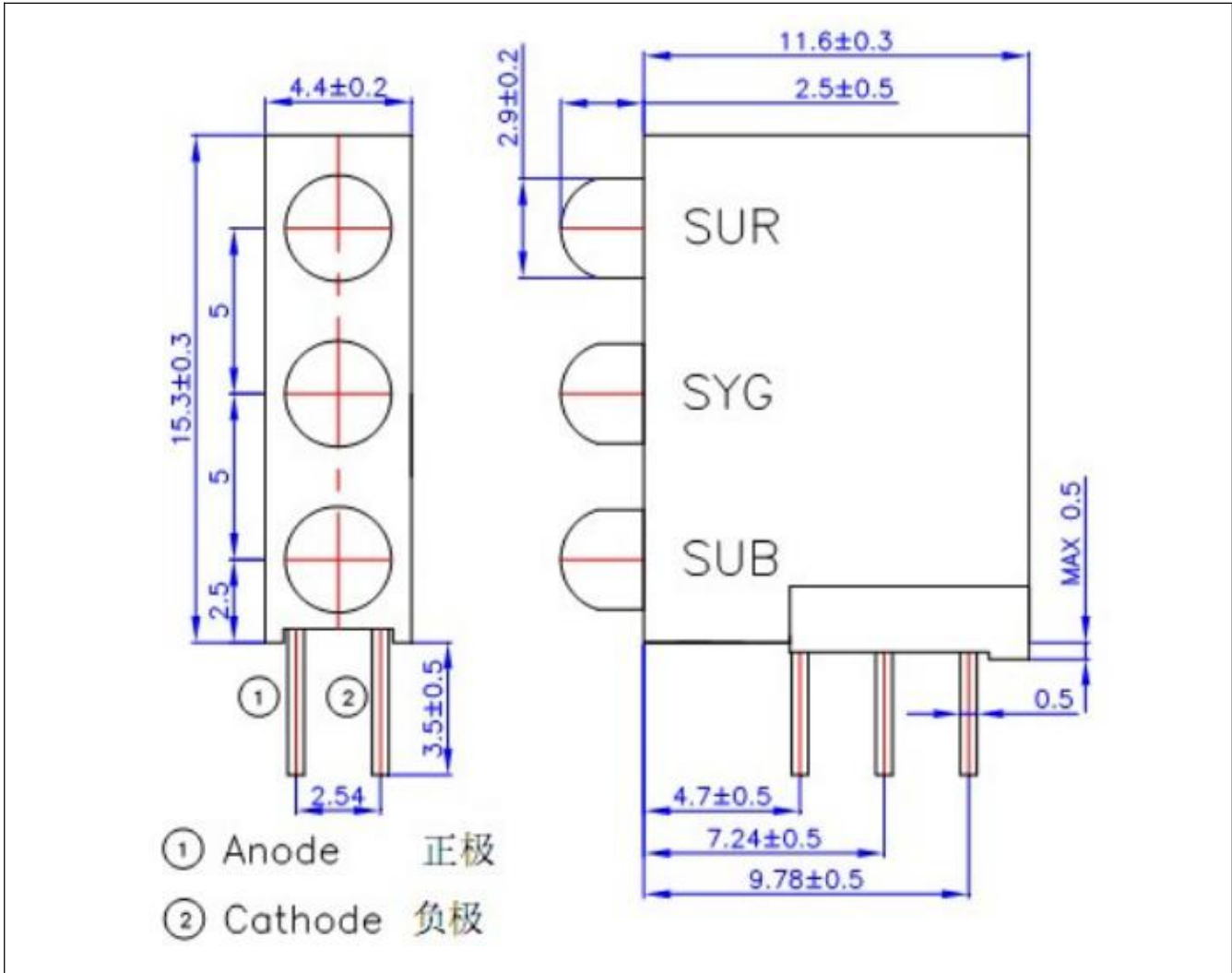
Series Name	Color Code	Remark
HV : HARVATEK	A1394B: Array 3 Lamp 3.0mm Round LED LAMP. SYG: AlGaInP 573nm Green Chip. SUR : AlGaInP 623nm Red Chip. SUB : InGaN 468nm Blue Chip.	

Features:

- Stable Color
- Popular 3.0mm through hole package.
- Green diffused lens and Red diffused lens.

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	*****	*****	CDAE-020-359
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			Page 3/12

Package Dimensions:



Notes:

1. All dimensions are millimeters.
2. Tolerance is +/-0.25mm unless otherwise noted.
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Official Product	HV-A1394B/SURSYGSUB	Customer Part No.	Data Sheet No.
	*****	*****	CDAE-020-359
Specifications are subject to change without notice. Data and drawings herein are copyrighted.	Oct. 30 2018	Version of 1.0	Page 4/12

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol			Unit
Power Dissipation	I _F	R	30	mA
		G	30	
		B	30	
Peak Forward Current*2	I _{FP}	R	60	mA
		G	100	
		B	100	
Power Dissipation	P _d	R	80	mW
		G	120	
		B	120	
Operating Temperature	T _{opr}	-40to+85		°C
Storage Temperature	T _{stg}	-40to+100		°C
Soldering Temperature*1	T _{sol}	260±5		°C

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

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	*****	*****	CDAE-020-359
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Oct. 30 2018	Version of 1.0
			Page 5/12

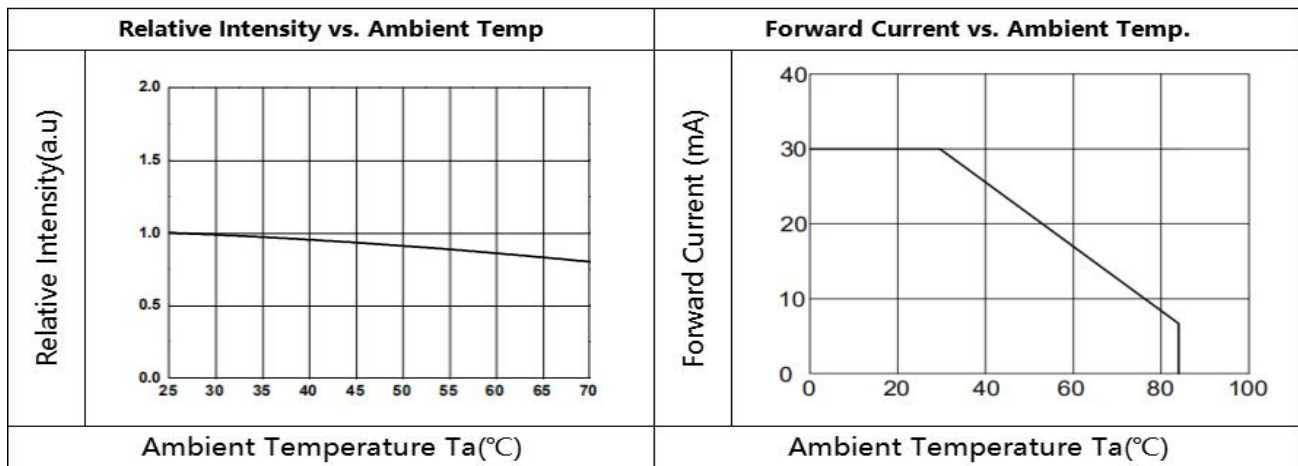
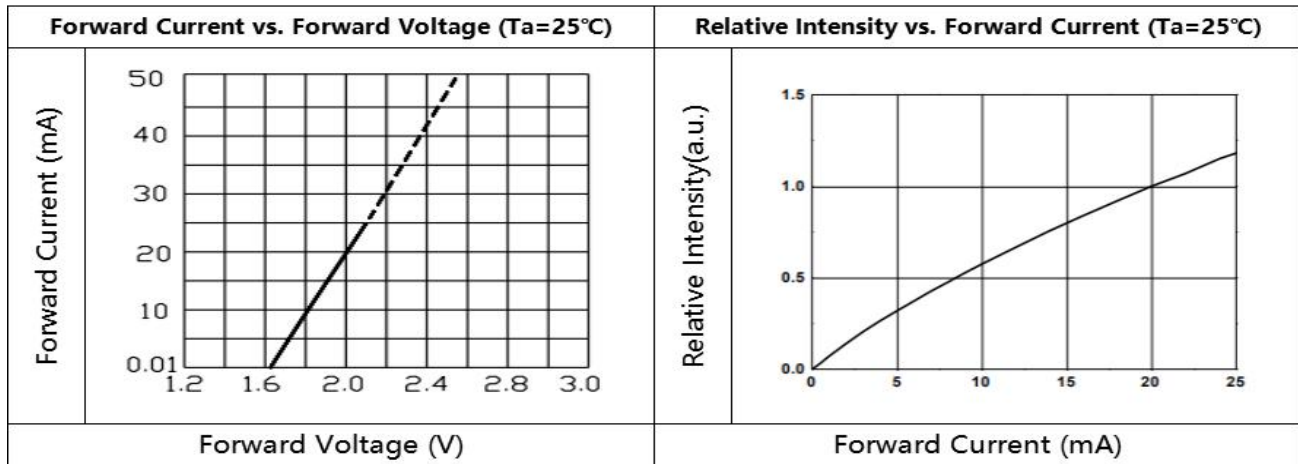
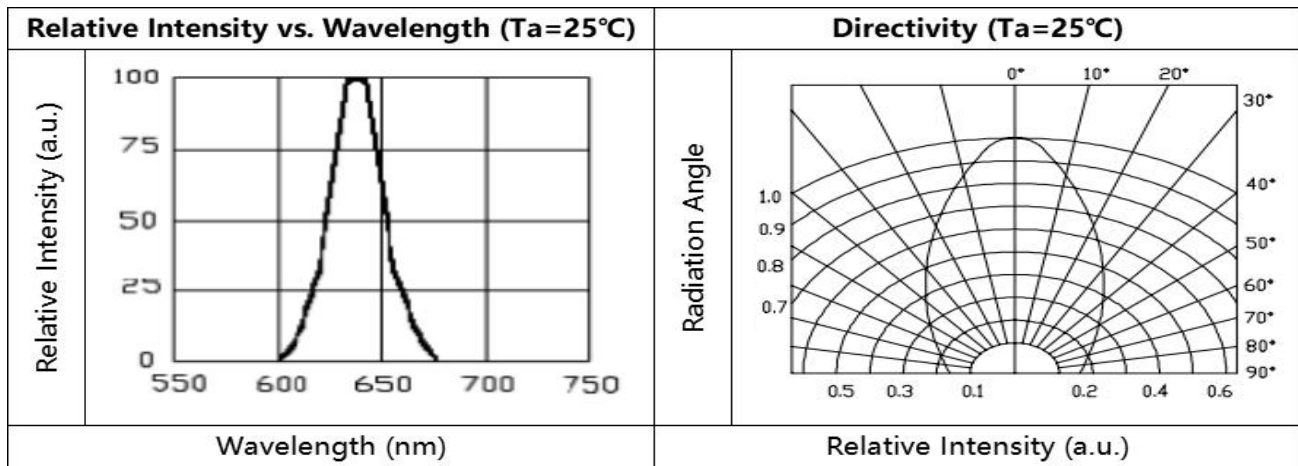
Electrical and Optical Characteristic

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I _v	R	50	200	---	mcd If=20mA
		G	20	60	---	
		B	150	600	---	
Viewing Angle	2θ ½	R	---	60	---	Deg If=20mA
		G	---	60	---	
		B	---	60	---	
Forward Voltage	V _F	R	---	2.0	2.4	V If=20mA
		G	---	3.0	3.4	
		B	---	3.0	3.4	
Peak Emission Wavelength	λ _p	R	620	625	---	nm If=20mA
		G	570	575	---	
		B	465	470	---	
Dominant Wavelength	λ _d	R	618	623	---	nm If=20mA
		G	566	571	---	
		B	463	468	---	
Spectral Line Half-Width	Δλ	R	---	20	---	nm If=20mA
		G	---	35	---	
		B	---	30	---	
Reverse Current	I _R	R	---	---	10	μA VR=5V
		G	---	---	10	
		B	---	---	10	

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

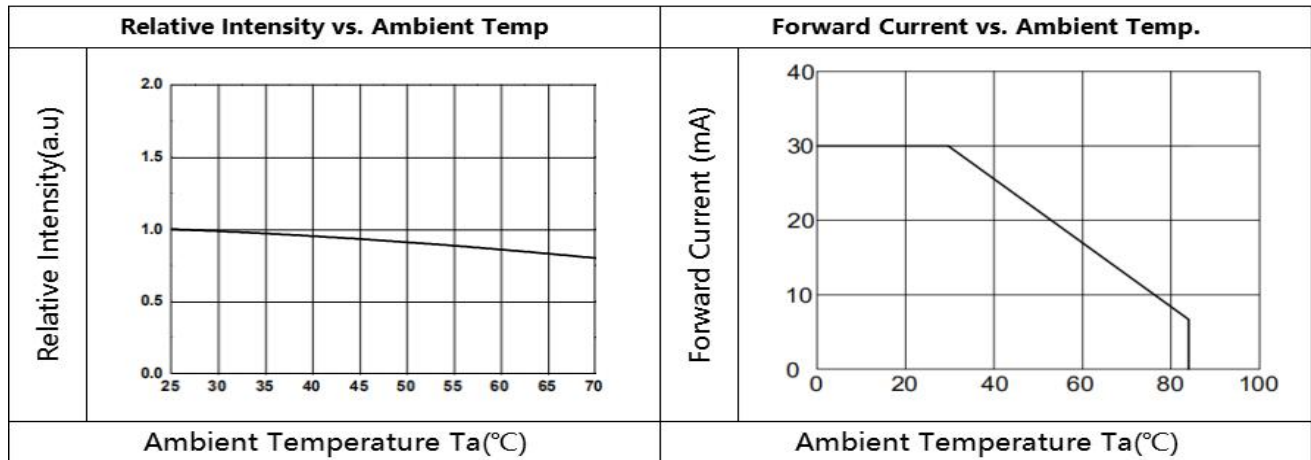
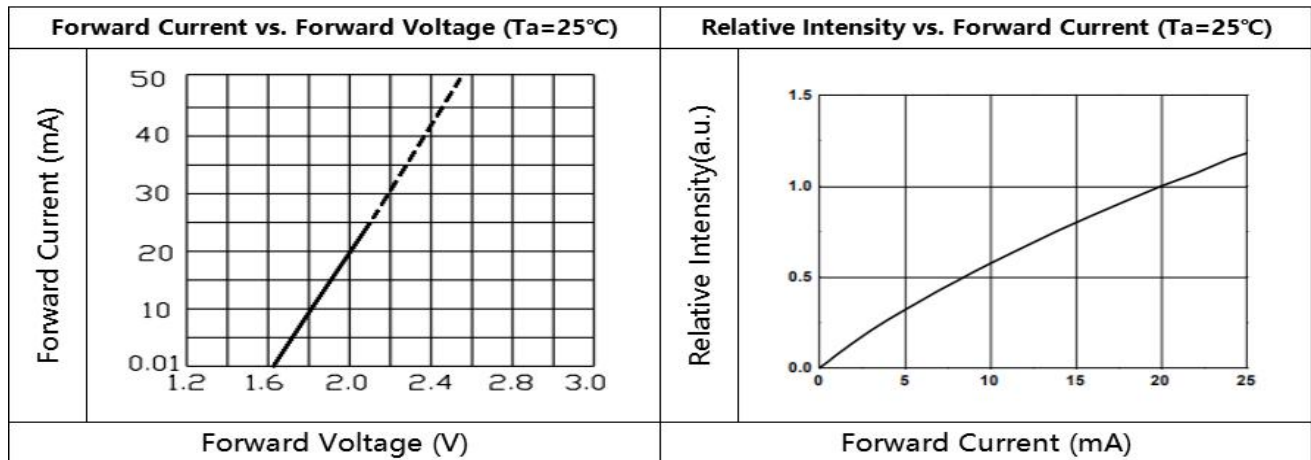
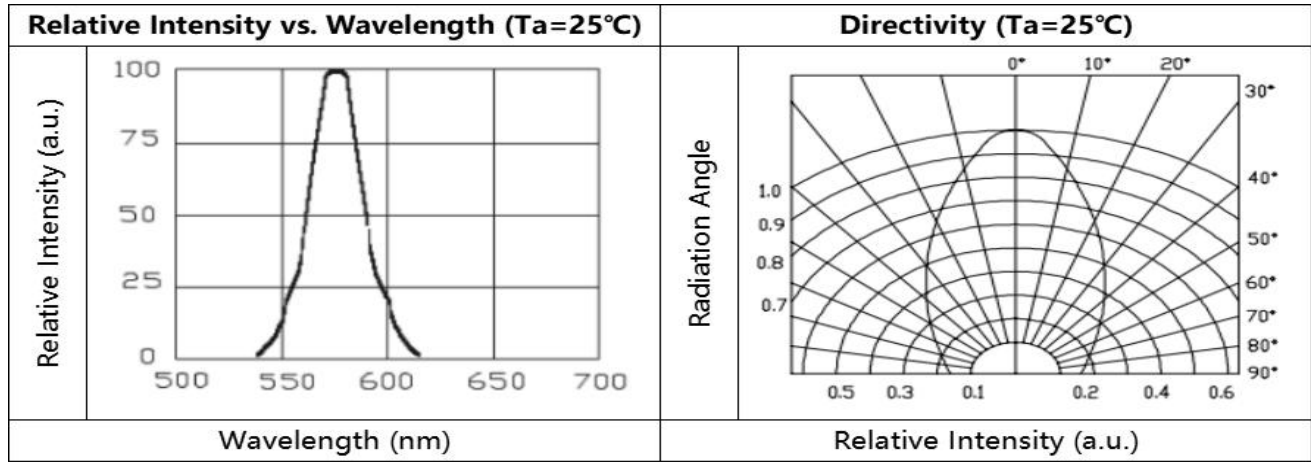
Official Product	HV-A1394B/SURSYGSUB	Customer Part No.	Data Sheet No.
	*****	*****	CDAE-020-359
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Oct. 30 2018	Version of 1.0
			Page 6/12

Typical Electro-Optical Characteristics Curves(R)



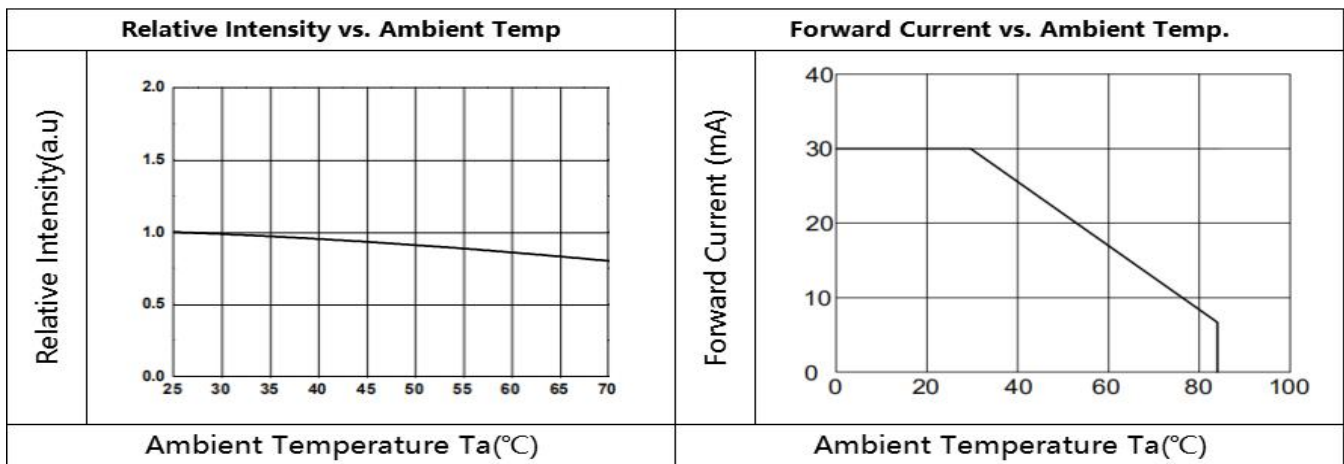
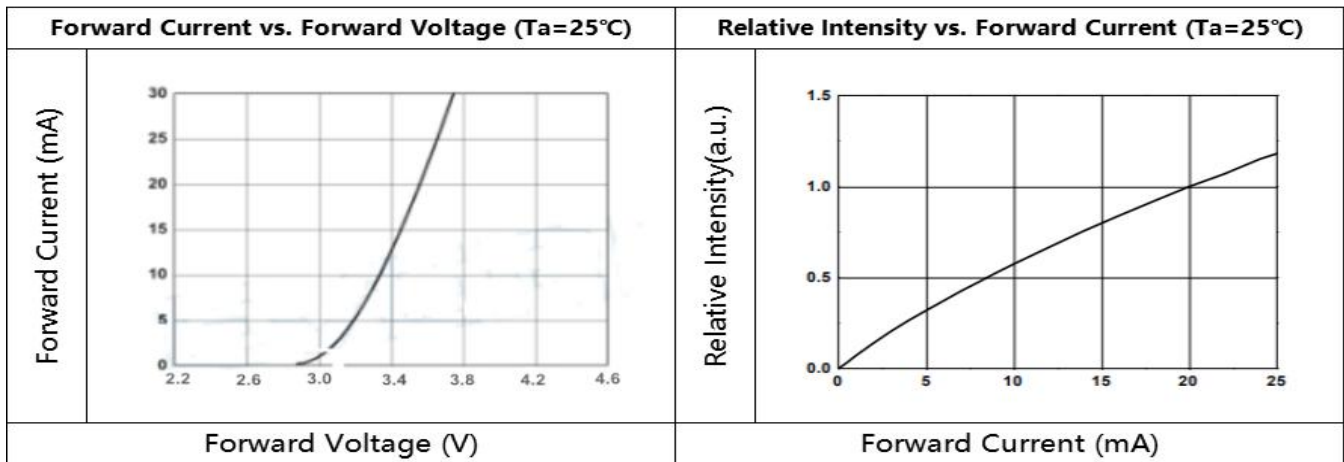
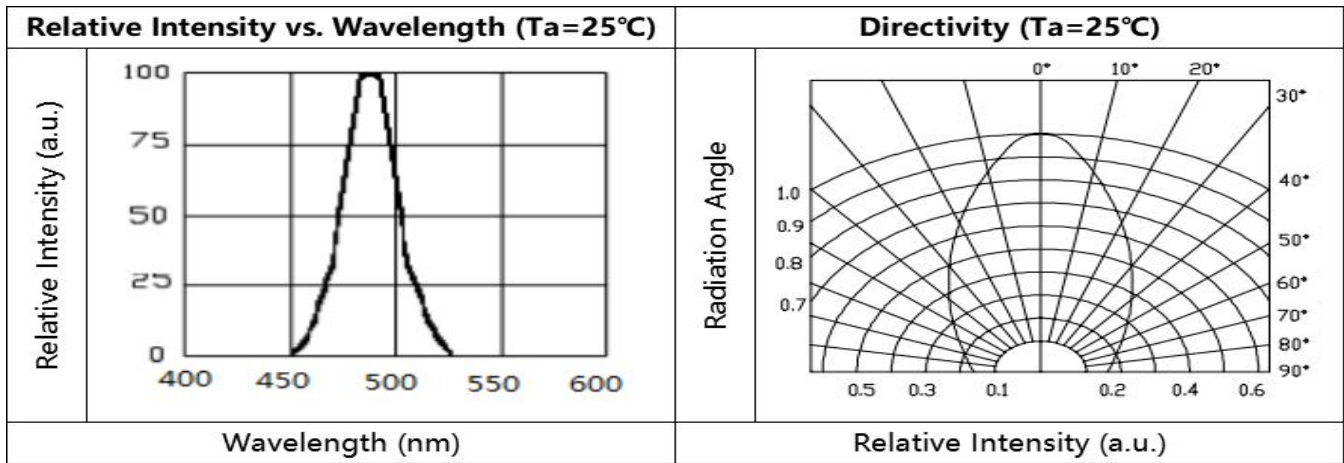
Official Product	HV-A1394B/SURSYGSUB	Customer Part No.	Data Sheet No.
	*****	*****	CDAE-020-359
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Oct. 30 2018	Version of 1.0
			Page 7/12

Typical Electro-Optical Characteristics Curves(G)



Official Product	HV-A1394B/SURSYGSUB	Customer Part No.	Data Sheet No.
	*****	*****	CDAE-020-359
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Oct. 30 2018	Version of 1.0
			Page 8/12

Typical Electro-Optical Characteristics Curves (B)



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	*****	*****	CDAE-020-359
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Oct. 30 2018	Version of 1.0
			Page 9/12

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.

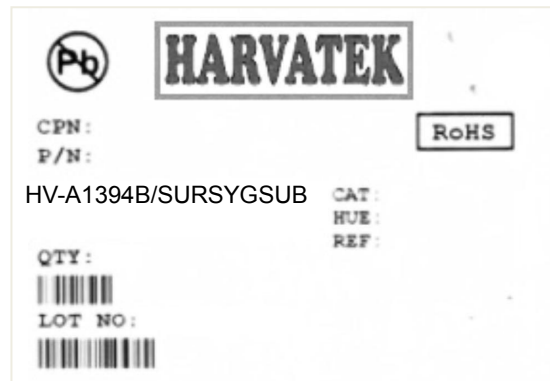
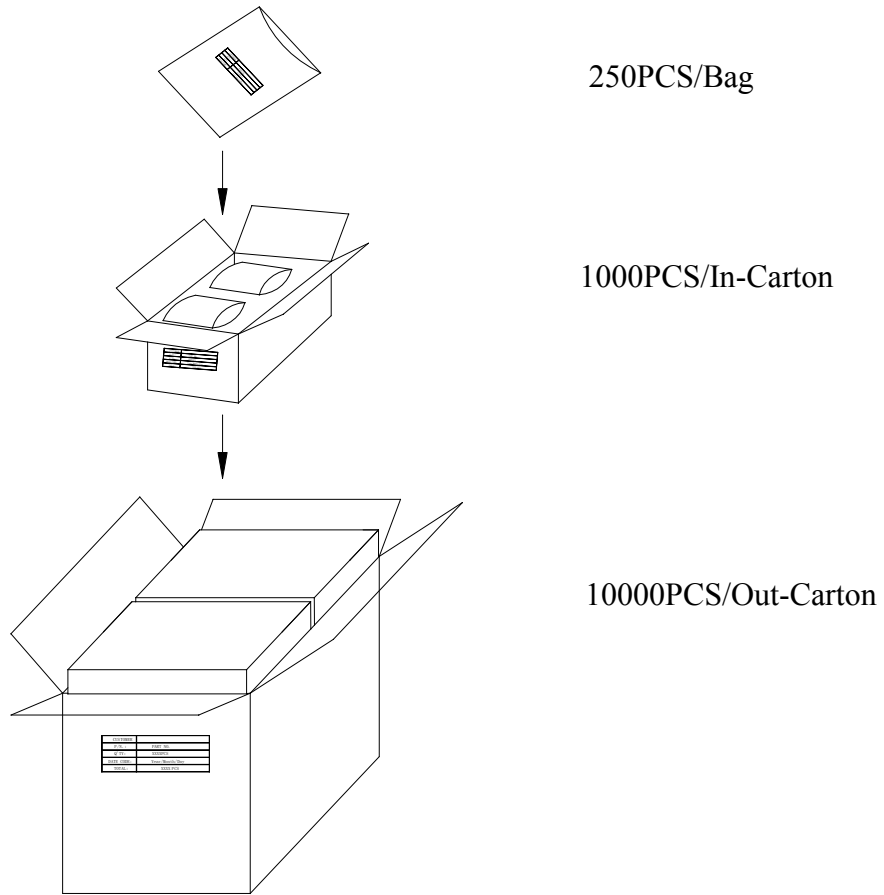
I_v : The test value of the chip that has completed the reliability test

U: Upper Specification Limit

L: Lower Specification Limit

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	*****	*****	CDAE-020-359
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Oct. 30 2018	Version of 1.0
			Page 10/12

Packing Specification:



Official Product	HV-A1394B/SURSYGSUB	Customer Part No.	Data Sheet No.
	*****	*****	CDAE-020-359
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Oct. 30 2018	Version of 1.0
			Page 11/12

Revision History

Revision	Page	Version No.	Revision Date
Initial Release		1.0	10-30-2019

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	*****	*****	CDAE-020-359
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Oct. 30 2018	Page 12/12