




PRODUCT SPECIFICATION

Model No: CSLO-U34XHR1-A0RT

Descriptions:	
■ Product Type	: Superbright Lamp
■ LED Package	: Oval LED Lamp
■ Emitting Color	: Red
■ Viewing Angle	: 100°/50°
■	Stopper



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY
			

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Model No.: CSLO-U34XHR1-A0RT

■ Feature

1. Low Power Consumption.
2. Wave soldering process compatible.
3. RoHS compliant.

■ Device Selection Guide

Part No.	Chip Material	Color	
		Emitted	Resin
CSLO-U34XHR1-A0RT	AllnGaP	Red	Red Diffusion

■ Applications

1. Amusement
2. Architecture and entertainment lighting
3. Electronic signs and signals.

■ Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	72	mW
Continuous Forward Current	I _f	30	mA
Peak Forward Current (Duty Cycle 1/10,1KHz)*1	I _{fP}	100	mA
Reverse Voltage *2	V _r	5	V
ESD Sensitivity	ESD	1000	V
LED Junction Temperature*2	T _j	110	°C
Operating Temperature.	Topr	-40~ +85°C	
Storage Temperature.	Tstg	-40 ~ +100°C	
Lead Soldering Temperature	Tsol	Max. 260 for 5 sec Max. (1.6mm from the epoxy body)	

1.Pulse width ≤ 0.1 msec. duty $\leq 1/10$

2.Proper current rating must be observed to maintain junction temperature below the maximum at all the time

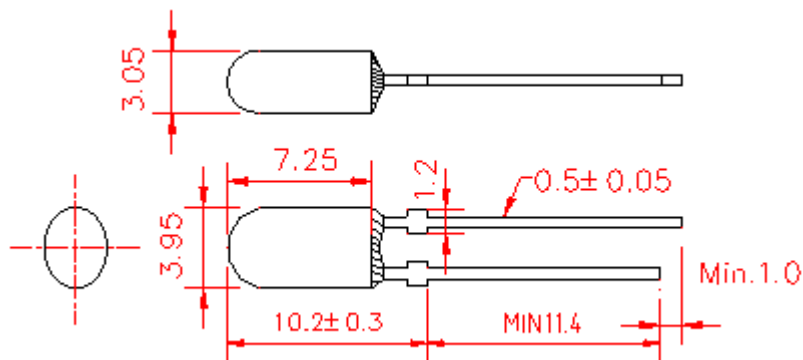
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Electrical / Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Forward Voltage	V_f	-----	2.2	2.6	V	If = 20mA
Luminous Intensity*	Iv	830	1200	-----	mcd	
Dominant Wavelength	λ_d	-----	622	-----	nm	
Spectrum Radiation Bandwidth	$\Delta\lambda$	-----	17	-----	nm	
Viewing Angle	$2\theta_{1/2}$	----	100/50	-----	Deg	
Reverse Current	Ir	-----	-----	50	μ A	Vr = 5V
ESD Sensitivity	HBM	-----	-----	1000	V	MIL-STD-833G

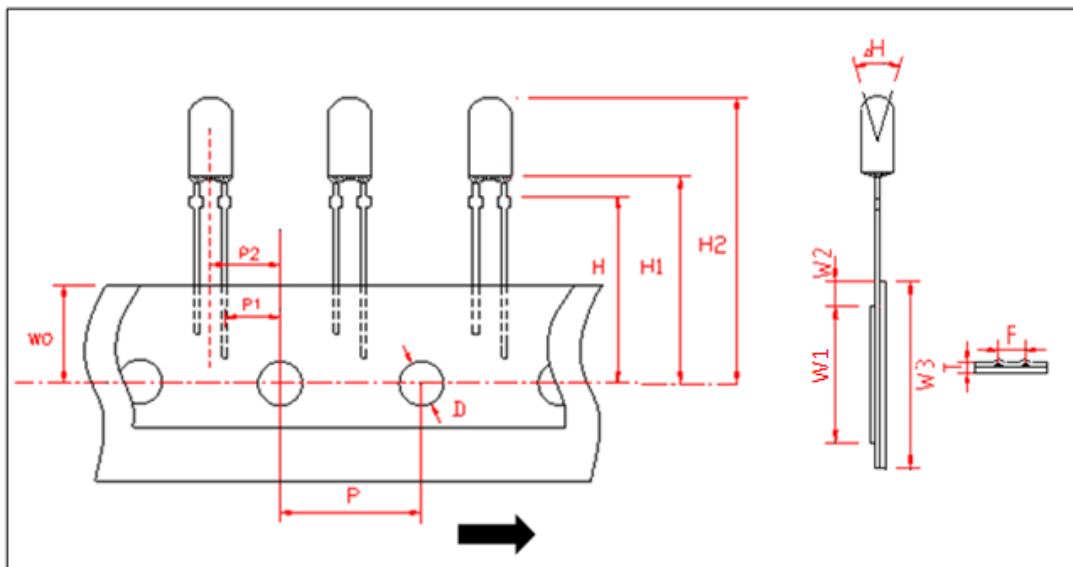
* Luminous intensity value is traceable to CIE127-2007 standards

Package Outline Dimensions



*Tolerance: ± 0.25 Unit: mm

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SYMBOL	SPECIFICATION			
	MILLIMETER		INCH	
	SIZE	TOLERANCE	SIZE	TOLERANCE
D	4	±0.2	0.157	±0.008
F	2.54	±0.5	0.100	±0.020
△ H		MAX.2.0		MAX.0.079
H		±0.5		±0.020
H1	18.95	±0.5	0.746	±0.020
H2	26.2	±0.5	1.031	±0.020
P	12.7	±0.3	0.5	±0.012
P1	5.08	±0.7	0.200	±0.028
P2	6.35	±1.3	0.25	±0.051
T		MAX.1.42		MAX.0.056
WO	9	±0.5	0.354	±0.020
W1	13	±0.5	0.512	±0.020
W2		MAX.2.0		MAX.0.079
W3	18	±0.5	0.709	±0.020
M		±0.5		±0.020

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■ **Luminous Intensity Rank Limits ($I_f = 20\text{mA}$)**

Luminous Intensity				
Bin Code	Min	Max	Unit	Condition
27	830	1080	mcd	$I_f = 20\text{mA}$
28	1080	1400		
29	1400	1800		
30	1800	2300		

■ **Dominant Wavelength Rank Limits ($I_f = 20\text{mA}$)**

Dominant Wavelength				
Bin Code	Min	Max	Unit	Condition
A6	616	620	nm	$I_f = 20\text{mA}$
R1	620	625		
R2	625	630		

■ **Forward Voltage Rank Limits ($I_f = 20\text{mA}$)**

V_f Rank				
Bin Code	Min	Max	Unit	Condition
C	1.8	2.0	v	$I_f = 20\text{mA}$
D	2.0	2.2		
E	2.2	2.4		
F	2.4	2.6		

Notes:

1. Tolerance of measurement of luminous intensity : $\pm 15\%$;
2. Tolerance of measurement of dominant wavelength: $\pm 2\text{nm}$;
3. Tolerance of measurement of forward voltage: $\pm 0.1\text{v}$;
4. All data are measured by OPT's test equipment.
5. One delivery will include several color rank, VF rank and I_v ranks of the products.
6. The quantity-ratio of the ranks is decided by OPT.

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■ **Electrical / Optical Characteristics Curves (Ta = 25°C Unless Otherwise Noted)**

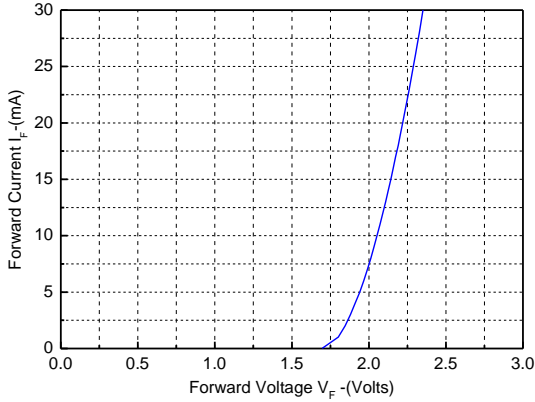


Figure1. Forward Current VS. Forward Voltage

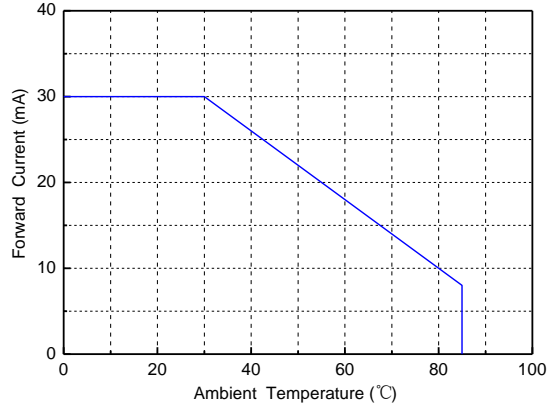


Figure2. Forward Current vs. Ambient Temperature

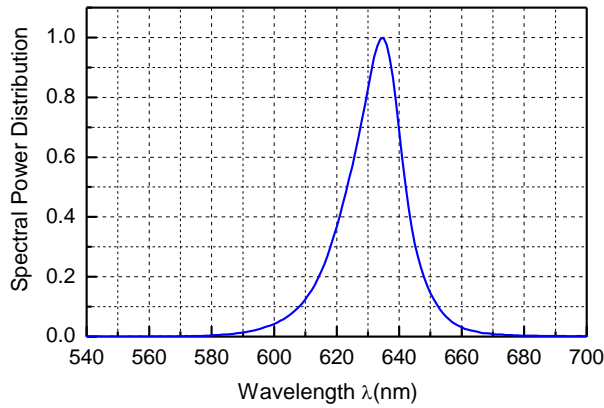


Figure 3 Spectral Power Distribution vs. Wavelength

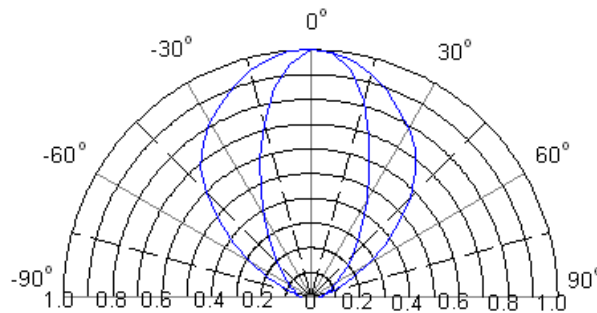


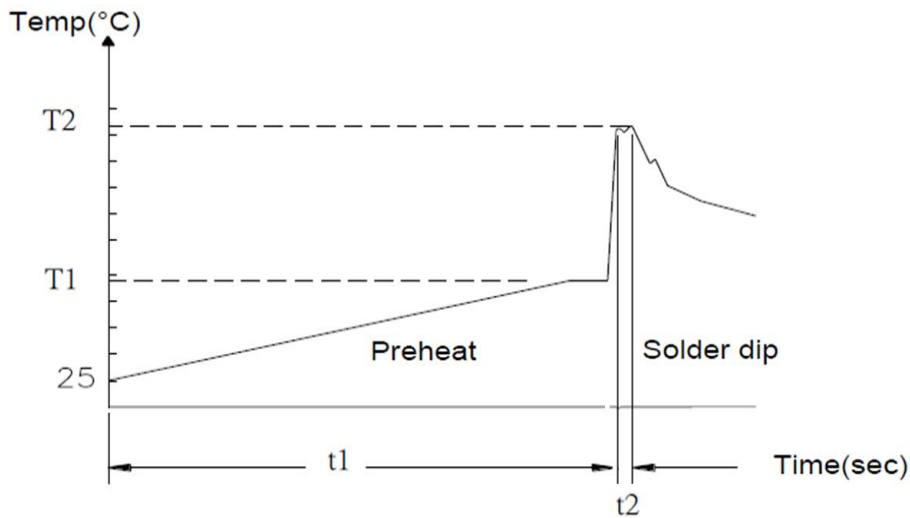
Figure4. Relative Luminosity VS. Radiation Angle

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■ Precautions For Use

1. Wave Soldering Profile

.Distance : 1.6 mm min (From seating plane)



Item	Condition		Notes
Preheat	Temp. T1	120-180 °C	PWB temperature (soldering side surface)
	time t1	60-180 sec	
Solder Dip	Temp. T2	230-260 °C	Bath temperature
	time t2	2-4 sec	Solder tank passage time

2. Hand Soldering (Iron Condition)

- 2.1 Soldering Iron: 30W Max
- 2.2 Temperature 350°C Max (iron tip 260°C Max)
- 2.3 Soldering Time: 3 Seconds Max (Once)
- 2.4 Distance: 1.6mm min (From seating plane)

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3. Static Electricity

3.1 Static electricity or surge voltage damages LEDs.

It is recommended that a wrist band or an anti-electrostatic glove should be used when handling the LEDs.

3.2 All devices, equipment and machinery must be properly grounded. It is recommended that measures be taken against surge voltage to the equipment that mounts the LEDs.

4. Storage

4.1 Shelf life: Within 18 months under following conditions.

Un-opened, at normal temperature / Normal relative humidity (+5~+30°C / 70%Rh.max.).

■ Reliability Test Program/ Reliability Test Item Tests and Results

NO.	Test Item	Standard Test Method	Test Conditions	Test Duration	Failure Criteria	Units Failed/Tested
1	OPERATION LIFE	JESD22-A108	Ta= UNDER ROOM TEMPERATURE IF=20MA	1000HRS	#2	0/20
2	HIGH TEMPERATURE HIGH HUMIDITY BURN-IN	JEITA ED-4701/102A MIL-STD-750 1026 MIL-STD-830 1005	Ta=85°C RH= 85% IF=5MA	1000HRS	#2	0/20
3	LOW TEMPERATURE STORAGE	JEITA ED-4701/202A MIL-STD-750 1026 MIL-STD-830 1005	Ta= -55±5°C	1000HRS	#1	0/20
4	SOLDERABILITY	JEITA ED-4701/303A MIL-STD-202(210F)	LEAD FREE:T.sol= 245 ± 5°C(SnCu) DWELL TIME= 5± 1secs	/	#3	0/20

Notes:

Measurements are performed after allowing the LEDs to return to room temperature.

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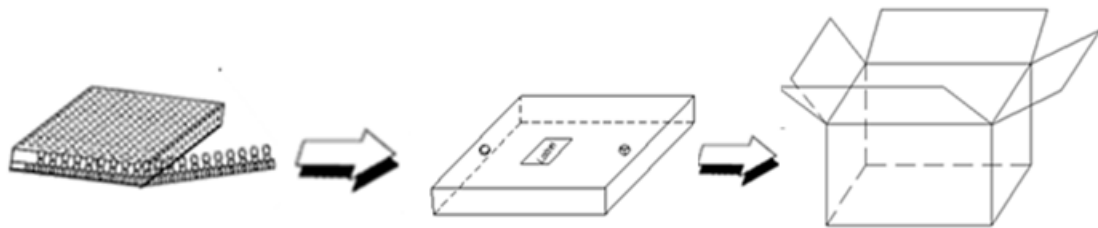
Failure Criteria

Criteria #	Items	Conditions	Failure Criteria
#1	Forward Voltage(Vf)	IF=20mA	>U.S.L.X1.1
	Luminous Intensity(Iv)	IF=20mA	<L.S.L.X0.7
#2	Forward Voltage(Vf)	IF=20mA	>U.S.L.X1.1
	Luminous Intensity(Iv)	IF=20mA	<L.S.L.X0.5
#3	Solderability	/	Less than 95% solder coverage

U.S.L.: Upper Specification limit L.S.L.: Lower Specification Limit

Package –

Package Name	Package Dimension		Distribution of the layer or box		Total Mount	
	Size	Unit	Amount	Unit	Amount	Unit
Inner Box	330*243*50	mm	1	Box	2500	PCS
Outer Box	530*345*290	mm	1	Box	25000	PCS



LED

Inner Box

Outer Box

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■ Change story-

Rev.	Date	Change Description
A	2014-12-25	Original version
B	2015-04-28	Appearance size change
C	2018-01-25	Add test standard description
D	2019-12-21	Add remarks on rated specifications
E	2023-03-15	Delete CS bright corporation's address ;

Please confirm with OPT salesman, if your request different form standard specification.